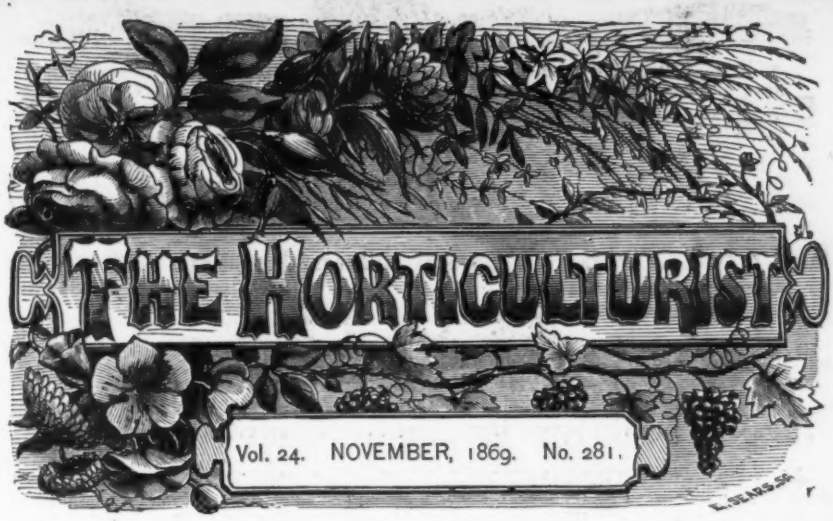



# Vineland as a Reality.

AN EDITORIAL VISIT.

PERHAPS no new settlement in its time has attracted so much attention as Vineland; and it is equally certain that of no other settlement have so many contrary reports been made, eliciting extravagant praise on the one hand, and persistent prejudice on the other.

Eight years have now passed since it was projected, and that time is certainly amply sufficient to solve the problem, and demonstrate whether it possesses the elements of success or not. The first heats of enthusiasm having passed, candid observers are taking a more careful look at the experiences which have followed.

During the sessions of the American Pomological Society last September, at Philadelphia, we visited Vineland, attended both of its fairs, and, unaccompanied by agents or other interested parties, made a tour of the tract, and gained a fair and unprejudiced impression of the land, the people, the real capabilities, and the future prospects.

Judging from the journals which emanate from there, giving full and overflowing accounts of great possibilities, and the prosperity that comes from a large and dense population, we expected to behold a gem of a village, with hundreds of neat cottages embowered among trees and shrubbery, flowers and climbing vines, while the acres around were to be teeming with beds of fruits, trees, or vegetables with every sign of healthy and successful growth.

We are disappointed in the reality. With the exception of a few houses on the principal streets and within a mile of the depot, we see little or no evidences of architectural beauty; most of the houses are cheap wooden structures, hardly exceeding in value a cost of $1000; while the absence of fences, lawns, and rural cottage improvements imparts a bare and unfinished look to the entire settlement.

It may have been a wise policy, on the score of economy, to dispense with all fences, yet we are among those who believe fences are among the most useful and beautiful of all embellishments, and Vineland *with* them would be one hundred per cent more attractive than *without* them.

There are but two good streets that seem an approximation to the idea of village beauty, namely, Landis avenue, and the one immediately south of it. Upon these two are some very neat cottages and a few even elegant mansions. But at a distance of a mile or two from the centre, we find the residences scattered in the midst of wild land, grown up with oak, bramble, or bushes, and only partially cleared.

In conversation with the people here and there, we are surprised to find a general spirit of discontent and a feeling of uncertainty for the future. We were prepared to hear both

sides of the question, enthusiasm and doleful complaints of distress. We find the latter spirit stronger than the former.

A majority of those who have attempted the improvement of their lands have found them not so cheap after all, and by the time the soil is in a tillable condition, well manured, it has cost as much as good strong land can be bought for anywhere else, namely, $100 per acre, and there are very few but would be glad to sell out and realize original cost. Upon that famous tract of land, fifteen miles square, we are credibly informed there are to-day 700 *farms for sale*, and the three or more newspapers of Vineland, with their *columns full* of "desirable places" for sale, only confirm the truth of the assertion.

Thousands have come there expecting to realize handsome returns in the produce of their strawberry-beds, and have concentrated all their capital and labor upon their cultivation, only to find it a treacherous dependence, and to meet with almost irrecoverable losses and utter dejectment. Their experience demonstrates that *the culture of small fruits in Vineland is not a success.*

One gentleman, who lived in Vineland three years, and was fortunate in selling out and returning home to his native town in New-England, said in a merry kind of a way, "*The first year we sold nothing; the second year, we sold enough to pay for our berry-baskets; the third year, we sold the farm.*

Another pitiable case came to our notice, where the disappointment in the returns of last year and this year were so great that, being unable to sell the farm, the family also unable to get adequate support, the wife with her child was obliged to return to her friends in New-England to live among them and obtain the comforts of a home, while the husband is working to-day as a day laborer at any jobs he can procure.

Our acquaintance with the markets here and our tour of observation over the tract enable us to give a few reasons why small fruit culture there has proved so unprofitable.

1st. The character of the soil and its natural fertility have been too greatly exaggerated. There is no doubt that the soil has a certain kind of fertility which is capable of growing some crops without much attention. But it has no *permanent* fertility, and it is the most expensive of all lands to keep in highest producing condition.

The soil is of a gravelly, sandy loam, very leachy, very porous, and utterly without *vegetable mould.* Strawberries can not be successfully grown for any series of years upon any land deficient in vegetable matter. Mineral elements are valuable in the growth of trees, but smaller crops need higher conditions of cultivation.

2d. Another cause of failure has been the want of care in the protection and cultivation of the strawberry-beds. During our entire trip, we did not see but one bed *mulched;* and that looked very fine, showing the effects of good treatment. It seems to be difficult to obtain good manures; few manufacture enough for their own use, and large numbers keep no cattle at all. For fertilizing material, they have to depend upon marl or muck, or else nothing at all is used.

3d. The major part of the strawberry plants are grown upon the clear soil, which, reflecting the sun, burns the berries, and, as many dealers can testify, on arrival in market the fruit has turned black, or begun to wither and rot. The fruit is fairly scalded.

4th. Another characteristic of Vineland strawberries is, that they are *gritty*, being allowed to hang over and touch the sand or earth.

5th. The fruit ripens at a time when nearly all berries from South-Jersey, West-Jersey, Delaware, and Pennsylvania are beginning to pour into market in immense quantities, and prices are reduced to a very low figure.

6th. In years past the largest portion of the fruit arrived in market unassorted, in cheap, tight gift boxes, poor crates, and of course in poor order. Although this has been greatly remedied the present year, and better fruit came in better order, yet the dealers generally have become so prejudiced it is difficult to induce them to receive consignments from Vineand and do them justice.

If the dealers feel no interest in the fruit, the interests of the grower must suffer. All dealers rejoice in good fruit, and do their best for it; but a prejudice once formed is rarely or never overcome. The prejudice of the dealers against Vineland fruit seems to be very deeply seated.

7th. Irregularity of trains and high prices of freight have operated also unfavorably.

Counting, then, all these difficulties of marketing and unfortunate seasons, year after year, we find the statement amply sustained, *that small fruit culture there is not successful.*

Hundreds of acres devoted to strawberries have been plowed up, and the lands are either lying idle now or devoted to some other purpose.

From what we have seen of sweet potatoes, we should say these would yield more profit on Vineland soil, as a constant crop, than strawberries.

Raspberries do not seem to be largely cultivated, and, save the Clark, are not thrifty in growth; the soil is not heavy enough, and the sun and light soil are fatal to the nicer varieties. Some plantations of black-caps have, however, done fairly, not over an average of 1500 quarts per acre.

The *Blackberry* plantations, as a rule, look sickly and diseased; growth is poor, produce light, and too often the ground is not well cleared and cultivated. There is many a blackberry field we saw grass-grown, and leaves almost dead. Some farms, either too sterile or too poorly tended, were such an abject sight that we almost felt the tears start in pity for "*one more unfortunate*" so misguided.

Some of the oldest and most sagacious settlers, finding the culture of small fruits, several years ago, looking unpromising, began to devote their attention to pears and grapes.

The grape has proved a success. We are happy to acknowledge it. The Concord is especially healthy, vigorous, and fruitful, and yields fine clusters.

Other varieties, Rogers No. 4, Ives, and Rogers No. 15, are very fine, and we think there is room for great encouragement in the growth of the grape. It seems to be the surest of the fruits yet cultivated, and most steadily remunerative.

A vineyard is an element of natural beauty, and in the formation of a small farm the vineyard forms the most attractive portion. We noticed quite a number of places which with the vineyards seemed pleasant; without them, they would have appeared bleak and sterile.

*Dwarf pears* have been tried, and some very creditable specimens of fruit and trees are shown. Vineland pears, particularly Duchesse, are very large and attractive, and the trees seem to bear early and abundantly. Standard pears grow with great thrift, and mature their wood well. The soil seems to prove congenial to their success, and, next to the grape, the pear seems most promising in future results.

We are afraid the soil will not prove of permanent richness, even with the pear; and after living several years until time of fruiting, the tree will find many necessary elements exhausted, and require heavy manuring to keep up successful production. Even as it is, we find pear-growers lose largely from *the dropping of the fruit.*

*Peach orchards* have been generally planted, and this year have yielded fair crops; while young, the trees are thrifty and bear good fruit; but they do not bear the prospects of living to a "*good old age.*" Dealers tell us that the fruit this year was small, and only second quality. We saw numerous instances of trees seven or eight years of age, and even younger, turning yellow and dying off rapidly. Peach orchards will hardly prove a permanent investment.

*Cherries* have been tried; but, except when grown as *shade-trees*, and the roots are protected by grass, they have not exhibited a healthy growth or been found profitable.

*Vegetables* have been tried, but not found uniformly profitable. The tomatoes, as a field crop, are very small; but grown in gardens, with generous care, they are of good dimensions.

The plan for the settlement of Vineland was a good one. Although it was a speculation for the benefit of one person, yet some public good was intended to be accomplished. The land was believed to be poor; and Mr. Landis believed it was capable of better things than lying as a mere barren waste, and has endeavored to demonstrate its value.

His ideas were to rear up a happy, industrious, contented community, with gardening for a pursuit, pleasant social privileges, and freedom from many of the curses which throng around so many of our large country towns, namely, intoxicating liquors, horse-races, and gambling.

As far as this is concerned, Vineland is all that is claimed for it. Its social privileges are excellent, its avenues are pleasant drives, its people are intelligent and temperate, the climate is fine, and in many points it is a desirable location for any one *with means* to enjoy a nice, quiet, contented life; but as far as the hopes and anticipations of the settlers have reached realization, *it has not proved a spot for accumulating either a fortune or a reliable livelihood in gardening and fruit culture.*

It commenced its existence in a time of war, when all kinds of produce rapidly advanced to extraordinary prices, and small fruits were not so generally cultivated as now; gardening then in Vineland was remunerative, and the little onion or strawberry patch could show good figures; but now in time of peace, with all farm products reduced in value, with production doubled in quantity, the incomes expected are not realized, and the poor (for there are many there) have to suffer.

Let any one curious to learn the inner history of Vineland take up one of their papers, and look at the two-column list of properties attached by the sheriff for failure to pay taxes, (some as low as $2;) then select any one of the delinquents, go and converse with him, and the searcher after truth will find genuine sorrow and poverty.

The failure of these men was in too high anticipation and too small a capital. They can not get away, they have not earned a livelihood, and yet must stay far from contented. Not a single instance has yet come to light, upon the tract of ten thousand inhabitants, of uniform success, year after year, in the cultivation of garden products; occasional reports of proceeds from a single crop of an acre or less are frequent, but they do not represent the average over a large area.

In leaving Vineland, we hope for better things. With a *good soil*, it would have proved a monument of energy. It may yet prove a brilliant success. We do not judge it harshly, but report facts as they are. As a beautiful place of *residence*, it can be recommended safely to all who desire to escape from the chilling winds and tedious snows of more rigorous latitudes. Its real excellence is its climate, not its soil.

## The Seneca Black-Cap Raspberry.

OF all the black-caps thus far cultivated and tested, we find the Seneca one of the best. In flavor it is of the finest character, berries of very large size, fine color, and plants very hardy, vigorous, and productive. It ripens later than all the rest; in some localities, even after Mammoth Cluster, and seems in every way very desirable for family culture. For market purposes, its productiveness will cause it to rank among the first of all late-bearing varieties.

It would be well for all families throughout the country who experience difficulty in cultivating the red raspberries, to take up with some of the finer kinds of black-caps. No fruit is healthier, and they form, to those who like them, an equally delicious dish to any other fruit used on the tea-table.

## The Rubicon Apple.

SINCE my article in the July number, with description of this apple, I have received a letter from our mutual friend Charles Downing, in which he draws my attention to the fact that he had received what he thought to be the same fruit, under the synonym of Pawpaw, Western Baldwin, and Ball apple, and thought that, without the synonym accompanying the "Rubicon" at all times, some might be led to suppose it a distinct fruit, and, having the one, might buy the other also. I willingly and very gladly make this addition to my description as published in July.

But now comes the September number of THE HORTICULTURIST, in which one "Mr. B." thinks it "a very common vice" which we scribblers for the press are apt to indulge in, namely, "overpraising of new fruits," and doubts if "the good character thus given to it" (the Rubicon) will or can be supported, and goes on to give some reasons for thus founding his opinion; but in the same clause in which he condemns it he also expresses a hope or possibility of better success on light soils; and further on says, "*It has* a local reputation on the sand, or soils comparatively light." What more do we want? Does Mr. B. suppose that we all live on "strong clay loams," or because we are on the sand we have no use for a good apple? But to learn further of its merits, I wrote to Messrs. Bross & Potter, of Kalamazoo, Mich., for something of its history and quality, to see what amount of value was placed upon it at home. They write me: "We think a great deal of the Rubicon, and are cultivating it

**The Seneca Black-Cap Raspberry.**

quite largely. The apples, taken together, are a lively bright red; have seen specimens that were dark. The present tree came from seed twenty-three to twenty-five years ago, and has borne fruit regularly since it came to maturity. We commenced propagating it in 1859, and have had a market for the trees at home. Can't see how Mr. Downing could call it streaked. In Western Michigan it is *good*. Should it prove hardy enough for Illinois and Wisconsin, it will be valuable indeed. It is quite well known in Van Buren Co., Mich., but outside of that county it has not been disseminated." Thus it seems that the Rubicon is not without honor even in its own country, and I am yet inclined to the opinion that it will sustain the good character I have previously given it. Mr. B. will please remember hereafter, as he writes with such "grave latitude of speech," that we do not all raise Baldwins, Greenings, or Canadas; indeed, it's so long since we saw one of these growing in Wisconsin, it would trouble us to tell how they looked on the tree; for we will guarantee there are not a dozen healthy trees of either of the sorts, and much doubt if there is of them in the aggregate to be found in Wisconsin. But we do grow such favorite sorts as Sops of Wine, Fall Stripe or Saxton, St. Lawrence, Perry Russet, Willow Twig, Cider, Yellow Bellflower, Red Astrachan, Duchess of Oldenburg, Fameuse or Snow, Tallman Sweet, Golden Russet, Westfield, Seeknofurther, etc., and expect to add to this catalogue the Rubicon, as soon as experience warrants it.

This is a portion of the list as grown by our Western nurserymen, many of whom are now turning their attention to some new Russian sorts for something even more hardy than they yet have on their list.

O. S. WILLEY.

September, 1869.

## Essay on the Plum.

***Read before the Illinois Horticultural Society.***

BY L. C. FRANCIS, SPRINGFIELD, ILL.

I SHALL endeavor in this essay to be brief but practical, giving largely the results of my own experience, which may perhaps be a sufficient apology for the frequent use of the pronoun I.

Downing, in his *Fruit and Fruit Trees of America*, describes three species of plums indigenous to the country.

1. The Chickasaw. This species grows very plentifully in our river-bottoms. It is generally known as the Sloe.* The tree, as well as fruit, is quite distinct from the common wild plum. The leaves of the former have a delicacy of texture, which, with their shape, somewhat resembling that of the peach, makes it very easy to distinguish its form from the common wild plum's. The fruit is also less affected by the sting of the curculio.

2. Wild red or yellow plum. This is the wild plum so common in our woods.

3. The beach or sand plum, a low shrub with stout, straggling branches, found mostly on the sandy sea-coasts from Massachusetts to Virginia, and seldom ripening elsewhere.

### *Propagation.*

The seeds of the Chickasaw and common wild both make good stocks. Though my preference is the Chickasaw, I have not been able to detect any difference, either in vigor or in hardiness, in trees grown on either of them. The seeds should be planted as soon as gathered, or put away in boxes with alternate layers of sand or earth, and planted in the spring. They should be kept somewhat moist, so as to germinate readily. My own practice is to sow very thick in drills a foot apart, and transplant into nursery rows, when trees have attained a height of two or three inches, choosing a moist day for the operation. By this means, the trees are not crowded as in the seed-bed, and, with good cultivation, are suitable for budding in the fall. I have sometimes failed to have pits germinate the first spring,

* Quite a discussion sprung up, after the reading of the essay, upon the statement that the Sloe was the same as the Chickasaw, but without coming to any positive decision. The latter is said to ripen early, while the former is in season about the same time or perhaps a little later than the common *P. Americana*. The identity of the two will be tested during the season. The Miner has every appearance of being a large variety of the Sloe.

and find that others have the same experience. Budding should be done, if the trees are large enough, the first season. The last week of July and the first two weeks of August is, perhaps, the best time to bud, though I have had excellent success the last week in August, and have had also very poor a week earlier. The yearling trees, if large enough, may be whip or tongue-grafted earlier in the spring, or cleft-grafted the second spring. It is advisable to work as close to the ground as possible, so that roots may be thrown out above the graft. To insure the best success, it is necessary to graft before the buds have started, or just when the buds commence swelling.

### *Planting.*

The trees are fit to set the first or second year from the bud or graft. The ground for a plum orchard should be rolling, or plowed, so as to run the water off readily. A moderately rich soil is probably best for the plum, though there are some varieties (the *Diapré rouge*, for one) that will literally bear themselves to death in a rich soil.

The Imperial Gage is a spare bearer with us on a rich soil, though yielding bountifully on our oak barrens.

Fifteen feet apart is perhaps a proper distance to plant in an orchard. It is true that the *Diapré rouge* would be better accommodated at eighteen or twenty feet. But the Duane's Purple really needs but ten or twelve, while the Imperial will just about occupy the fifteen feet. But in order to work the curculio-catcher successfully, fifteen feet is none too much.

### *Varieties.*

There are a great many varieties described in our fruit-books. I shall only speak of those I have had experience with.

First of all is the Diapré Rouge. We have fruited it for nearly ten years, and find that it possesses more good qualities than any variety we are acquainted with, though it is not as rich a plum as some. It is a prodigious bearer of very large, handsome fruit, of good quality. It requires thinning in order to produce the largest fruit. It is hardy; grows thriftily upon our rich prairie soil.

We are indebted to Dr. Kennicott for this variety. He, being unable to supply a variety ordered, substituted the Diapré Rouge, with a high commendation of its qualities, and we have never regretted it.

Duane's Purple is a more showy plum, and will bring a higher price in the market. It bears well, but the fruit is apt to rot on the tree. It is a profitable variety, but it is such an upright grower that it takes about three trees to bear the fruit that one of Diapré Rouge will. However, it has this advantage: it needs no propping to prevent branches breaking with weight of fruit.

Imperial Gage is a sweeter, richer plum than either of the others. As a tree, we think it not quite as hardy, and needs a poorer soil than we have fruited it on, to be an abundant bearer.

Red Gage is earlier than either of the preceding, and proves a good bearer with us, though rather small. Still, its fine flavor makes it very salable in the market.

Smith's Orleans has not done very well with us. Perhaps on a poorer soil it may prove better.

German Prune has proved tender, though the fruit is No. 1 for flavor.

We have fruited other varieties, such as the Nectarine, Yellow Egg, Prince's Damson, and Hanford's Orleans, but are not propagating from any but the Nectarine, with which we are well pleased.

### *Pruning and Cultivation.*

We prune but little, and that while the tree is young, starting the head about four feet from the ground. Cultivate the same as with the apple. It is an excellent plan in our rich prairie soil, after the first year, to practice sowing oats among the trees in July. This checks their rank growth, causing them to mature their wood early, and thus be in better condition for wintering.

### *Diseases.*

There are but two or three diseases to which the plum is liable. The black wart has not proved very troublesome in the West, though it is frequently met with. Occasionally

we find it on our own trees, but by cutting off the affected limbs, and burning them, the disease does not increase. The fruit rot is occasionally troublesome. It is sometimes, if not generally, confined to varieties. The Diapré Rouge is seldom troubled, while the Duane's Purple, in some seasons, is very seriously affected. Thinning the fruit, so as not to let them touch each other, is a partial remedy. The plum is frequently injured, more or less, by the winter. Sometimes the tree is killed outright, but more generally it is thrown into a diseased and sickly condition.

The abundant vegetable matter in our rich prairie soil causes an excessive growth in the latter part of the season, unfitting the tree for the sudden changes of temperature our winters subject them to. The sowing of oats, as before mentioned, will remedy this to some extent.

Screens of evergreens or deciduous trees are also beneficial.

### *Insects.*

Like the apple and the peach, the plum is troubled with a borer, and, what is a little singular, this fact is not mentioned in any of our fruit-books. It is quite troublesome with us.

I have suspected that it might be identical with the peach-borer, but will leave this for entomologists to decide.

(Dr. Walsh, being present, was interrogated in the matter. He said it was the same.)

It is also troubled with a trunk-borer—the same, I suppose, that attacks the apple, the elm, soft-maple, and other trees. Recently transplanted and unthrifty trees are generally the only ones troubled.

The canker-worm seems to be nearly as much at home on the plum as on the apple, and has been very troublesome with us.

The caterpillar is frequently found on the plum.

The leaf-roller also is perfectly at home there.

Last, but not least, are the curculio and plum-gouger. These have been so thoroughly described by Dr. Walsh, in his first annual report of the acting State Entomologist, that it would be superfluous to describe them in this essay, merely mentioning that while the larva of the former lives upon the fruit, that of the latter lives upon the kernel inside of the shell.

### *Remedies and Results.*

Remedies, offensive and defensive, have been proposed.

First, in the offensive department, I will give the New-York *Observer's* great curculio remedy.

To one pound of whale-oil soap add four ounces of sulphur; mix thoroughly and dissolve in twelve gallons of water. Take half a peck of quick-lime, and, when well slacked, add four gallons of water, and stir well together. When well settled and clear, pour off the transparent liquid and add it to the soap and water mixture. To this mixture add four gallons of strong tobacco-water. Apply this compound, when thus incorporated, with a garden syringe to your plum or other fruit-trees, so as to drench all parts of the foliage. If no rains succeed for three weeks, one application will be sufficient. If washed by rains, it should be renewed.

The receipt was effectual in raising, not plums, but the price of whale-oil soap, from one dollar and fifty cents per hundred pounds, one year, to six dollars the next. [Laughter.] We tried it faithfully upon a portion of our orchard, and finding the curculio had misunderstood the object of the syringing, [laughter,] or was obstinate and wouldn't take the hint, we fitted up a curculio-catcher, similar to Dr. Hull's, and invariably caught as many curculios from the trees that were syringed as from those that were not.

Gas-tar has been recommended, but it is utterly worthless for this purpose. Indeed, a gentleman informed me that he had tried the strongest smelling substance to be obtained at the gas-works—so strong that his neighbors complained of it as a nuisance—but without any effect.

Coal-oil is also recommended, but as it will not drive off lice from cattle, it is doubtful whether it will drive the curculio from the plum-trees.

Among the defensive remedies, cotton batting tied around the trunk of the tree has been recommended, in entire ignorance of the fact that the curculio has wings and flies readily.

Common salt has been suggested. After smoothing the ground and packing hard, the salt is to be spread a quarter of an inch thick as far as the branches extend. I have seen no report from any one who has tried it, but would suppose from the fact that the curculio will fly half a mile or more, the remedy would have to be extensively applied to be any thing more than partially successful.

Hogs running in an orchard while the plums are falling, is, from the fact above mentioned, also only a partial remedy.

But after all that has been said, the only reliable plan of fighting the "little Turk" is the jarring plan. Knock the rascals down on a sheet spread under the tree, and pinch their heads off. Dr. Hull's curculio-catcher is an admirable contrivance for doing this speedily and effectually. It has been suggested that if the "umbrella plan" was carried out more closely, it might be an advantage. A jointed handle, or a handle that could be inserted so as to fold up the sheet from the barrow, would make it more convenient for passing through gates, and also storing away when not needed. In conclusion, I would say, whoever would be a successful plum-grower must exercise the persevering, unconditional-surrender spirit of our President-elect, and fight it out on this line, (the jarring and sheet process,) if it takes all summer.

## Weeping Elms.

BY THOMAS RIVERS, IN "GARDENER'S CHRONICLE."

I HAVE the pleasure of looking from my bedroom window on to my lawn, of rather considerable extent, sloping gently to the south-west, (well sheltered by my neighbor's plantation of nearly a century's growth,) and sprinkled with ornamental trees of my own planting. My attention for two or three weeks past has been drawn to weeping elms; their foliage is so abundant, and their habits so varying and graceful.

The most wildly picturesque of this group of trees is the old variety, *ulmus montana pendula*, the weeping Scotch elm; this, with its large deep green leaves, is very imposing and effective. Its congener is the Scampston weeping elm, a variety of *ulmus montana*, but much more pendulous than the first-named; its branches, covered with grand foliage, seem to rush downward perpendicularly, and a tree soon forms a dense circular arbor.

*Ulmus rugosa pendula* seems to be a hybrid between *U. montana* and *glabra;* its leaves are not so large as those of *U. montana*, but are of the same dark green and rugose nature. This is a very graceful pendulous tree. My specimen is about thirty years old and thirty feet in height. On the opposite side of the lawn, and some thirty or forty yards distant, is a very fine specimen of *ulmus glabra pendula*. This variety I imported from France many years since. My specimen is from thirty to forty feet in height, and every shoot more or less pendulous. This tree, like the preceding, is very graceful.

My next favorite weeping elm is a lady among the elms, so delicate and graceful is its foliage and habit. It is from America, and was sent over as *U. americana pendula*, although it is said by my American friends not to merit the specific name of *pendula* more than the elms commonly planted in the New-England towns and villages, as they are all pendulous.

My friend, the lamented A. J. Downing, when on a visit here some years ago, aroused my country pride by persisting that the American elms were more gracefully pendulous than our Hertfordshire elms, (*U. glabra*,) even after I had shown him those to the south of the Roydon station, Great Eastern Railway, which are very beautiful trees. It is only within these few years that I have given way, and I now believe the American weeping elm to be the most beautiful and graceful of weeping trees, so different from the lumpish, ungraceful nature of the weeping sophora or weeping ash. My American weeping elm is some fifteen years old, and rather small of its age, (not more than fifteen feet high,) as it sustained a grievous check in being removed from where it was established to its present quarters in the centre of my lawn. From the size and roughness of its leaves, one would think

it related to *U. montana*, but their color is such a delicate green—quite *sui generis*—and they hang on the shoots as if they were placed there by a fairy hand, and in a gentle breeze they flutter as if some young lady fairies were exercising their fingers among them. The tree is really charming.

It is very remarkable that the American elms, or at least the kind I have, will not succeed when grafted on our English elms. Scions from my tree have been grafted on the Scotch elm, (*U. montana*,) the stock usually employed in nurseries, and on the variety of *Ulmus glabra*, called the Huntingdon elm, to which, to judge by its light green leaves, it has some relationship. Still it will not unite to its cis-Atlantic cousins, and even when grafted by approach (inarched) on standards of the last-mentioned kind, and suffered to remain from March, when they were grafted, till the spring following, all the scions died when detached.

There is yet another weeping elm deserving of mention, *Ulmus microphylla pendula;* its leaves are rather smaller than those of the weeping birch; it is not quite so graceful as that lady-like tree, but, owing to its dark, dense foliage, it forms a very distinct picture. My tree is probably the oldest and largest in England, and is now about fifteen feet in height.

There is, perhaps, no family of trees that varies to such an extent as the elm; there are probably but two species, both of them bearing seed freely, namely, *ulmus montana*, which rarely varies to any great extent, and *ulmus glabra*, [*campestris?*] the varieties of which are endless. I can not help mentioning two very remarkable varieties, one from the last-named species, called *ulmus pyramidalis;* this has deep glossy green leaves, and grows more closely pyramidal than the Lombardy poplar; it is of French origin, and very curious. The other is a sort received some thirty odd years ago from a Mr. Smith, a Scotch botanist, who was very industrious in collecting varieties of British plants. He sent this elm to me under the name of *ulmus montana pumila*. My tree is, I think, thirty-six years old, and it is just thirty-six inches in height. Nothing can show more forcibly than this tree the control of the graft over the stock; for it is growing near my specimen of *ulmus glabra*, and is grafted on the same kind of stock, *ulmus montana*. One is in round numbers thirty-six feet, and the other thirty-six inches, in height; both are as nearly as possible of the same age.

Diverging from elms, I can not pass over one of our most magnificent pendulous trees, the weeping lime, *tilia alba pendula*. My tree is about twenty years old; it formerly stood near my house, but its rapid growth and grand foliage encroached too much on the space allotted to it, so about ten years since it was removed to its present site; it was a great shock, from which it is only just recovering. This kind of lime blossoms a fortnight after the common lime, and fills the air with its unique fragrance.

## Small Fruits in Kentucky.

EDITOR HORTICULTURIST: Having, for the past half-dozen years or more, been an amateur culturist of small fruits in Central Kentucky, and having cultivated many of the old, tried varieties, and a considerable number of the new kinds, I believe I can now say which are suited to a Kentucky climate. Among the decided failures in the strawberry line we place Mr. Knox's Jucunda and the far-famed Agriculturist and the Triomphe de Gand. These three literally burn up under our summer sun, and give but a poor yield of insipid fruit. Among the varieties that succeed *well*, we name (of course) Wilson's Albany—for where is the place that it is not a success?—the Charles Downing, Colfax, Green Prolific, Downer, French, and Barnes. These do well, so far as tried, all over Central and Northern Kentucky. My system of cultivation is in hills and rows, although I have tried *all* methods, including the "*slip-shod*" and "*let 'em rip*," and these kinds do well under all kinds of treatment, but far better under hill and matted row. Treated in this way, they yield enormous crops of luscious berries, and will amply repay all time and labor used in such a system of culture. Plant in rows a foot and a half apart, with the rows two and a half feet wide, clip off all runners and cut down weeds and grass, *mulch in winter*, and you may *depend* upon a fine crop.

Raspberries, with the single exception of Brinckle's Orange, stand our winters without any protection. They all stand our summers except the Kirtland, which scalds so badly as to produce only about a third of a crop. Doolittle is fine, and the Antwerp family (except Hudson River) do moderately only. The entire black-cap family—especially Doolittle, Mammoth Cluster, Davison's Thornless—Seneca, Miami, and wild black, all give abundant yields. The Purple Cane also, which is to the raspberry family what the Wilson's Albany is to the strawberry family, gives a fine yield of good family fruit; but far too soft for market. The Houghton Gooseberry is the *ne plus ultra* of that class of fruit. Tremendous yields of excellent fruit *every* year is her contribution for moderate culture. The Versailles currant is the best of all.

In the blackberry line but little is done, as *all our* waste fields produce the finest of fruit in *unlimited quantities;* but if I were intending to plant this fruit, I should only obtain the Wilson's Early and Kittatinny.

We find here that, if we would receive the best results in the culture of small fruits, we *must mulch* both summer and winter, and *stir the soil well* after fruiting season is over. Leaves, straw, sorghum, bagassa, and spent tan-bark are the best mulching materials. In our next we may have something to say about our larger fruits. WOODMAN.

STANFORD, KY., Oct. 1869.

## Raspberry Culture.

BY HENRY THACKER, HORTICULTURIST, ONEIDA, N. Y.

OUR method has been to set the plants in rows, six feet apart one way, and from three feet to three and a half the other, on good land which, if previously well manured, so much the better; though in cases where manure is scarce, good crops may be realized from ground in an ordinary state of fertility; but like most other crops, proper manuring will always be found to pay well.

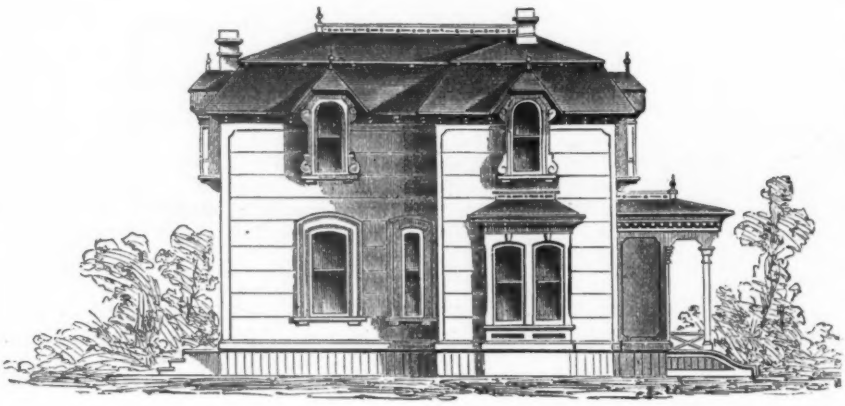
After the plants are set out, the ground is kept thoroughly cultivated, until prevented by the running of the vines, when they should no longer be worked among, but allowed to strike root, (which they will readily do, if not disturbed,) in order to furnish a future supply of plants. The second year after setting, we expect the plants, if they have done well, to bear half a full crop.

Some cultivators manage to get along without staking and tying up the vines, but thus far we have not succeeded satisfactorily without supports of some kind; especially during the first crop, when the vines are low and trailing, we find that a larger amount of fruit is obtained, in better condition, and freer from dirt, when stakes are used. Mulching, however, would operate to keep the berries clean; but during the second year's bearing, when the plants become loaded with foliage and fruit, the stools are liable to be tipped over, or broken down by the violence of storms; thus destroying, perhaps, much fruit, and also obstructing the passage of the horse and cultivator.

We sometimes use stakes, and a single wire. We drive short stakes into the ground, once in thirty feet, saw them off two feet above the ground, and fasten one end of the wire to a hub driven firmly into the earth. This wire is stretched the whole length of the row, and fastened on top of the stakes by means of wire staples, the end being secured in the same manner as the first. The ends of the vines are then gathered up and tied together in one place on the wire, half-way between the stools, where, during the gathering of the fruit, the growth of the new canes is not interfered with. When the new canes have reached a few inches above the wire, their growth is stopped by pinching off the ends, which operation causes them to branch just above the wires, thus giving room to tie the stool to the wire below the branches, and allowing them to retain their natural position. These form the stools which are to bear the future crop, and are now allowed to finish their growth without further interruption. By the use of wire, the first cost perhaps will be greater than when stakes alone are used; but in the end it will be found the cheaper method, as the wire will last many years, and may be moved as occasion requires.

In case the new canes which spring forth, and which are to bear the second year's crop,

need thinning, the weaker ones should be broken out in early growth, in order to give those which remain a better chance. Allowing that the second year's crop is to be the last, no new canes should be allowed to grow during that season, but should be broken away in order to give those in bearing the full strength of the root, which, as we often proved, tends very much to increase the size, and consequently the amount of fruit. After this manner we shall expect to get nearly, or quite as much, in two years, as in the ordinary way we gather in three, and all large and first quality berries.



## Design of a Rural French Cottage.

WE present this month a design for a suburban cottage in the French style of architecture, which combines great taste with utility and convenience.

The novel form of the roof, the jutting out of the windows, and the opportunity for architectural ornament, both by railing on the top and ornaments under the eaves, seem to afford space for producing a cottage of highly agreeable appearance. The effect would be still more strong if the exterior were well painted in warm cream color with trimmings of darker shade.

By referring to the plans on an accompanying page, it will be seen that the rooms are arranged with a view to greatest ease, comfort, and least passing to and fro. The kitchen is in the L of the building, entirely shut off from the parlor or living-room, and yet communicating with the latter through a closet with a blind-window, that can be opened and closed at pleasure.

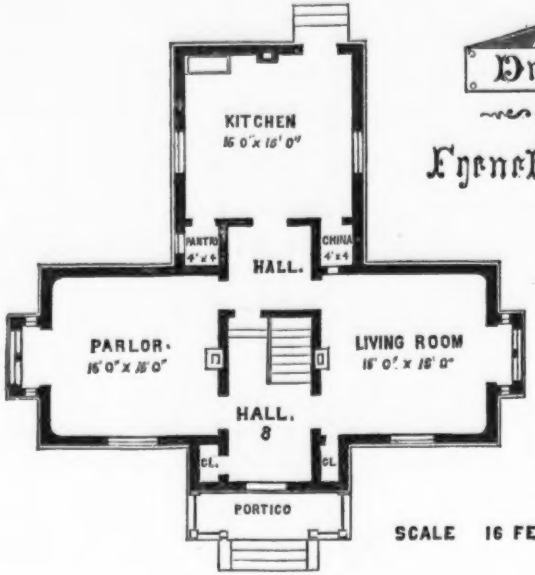
The position of all three rooms on the ground floor affords opportunity for obtaining an abundance of light, with good views to the side, front, or rear, and easy passage to the stairs. A furnace in the basement can be easily placed to heat all the rooms in both stories at once, or the luxury of a grate-fire can be indulged in, with little or no inconvenience.

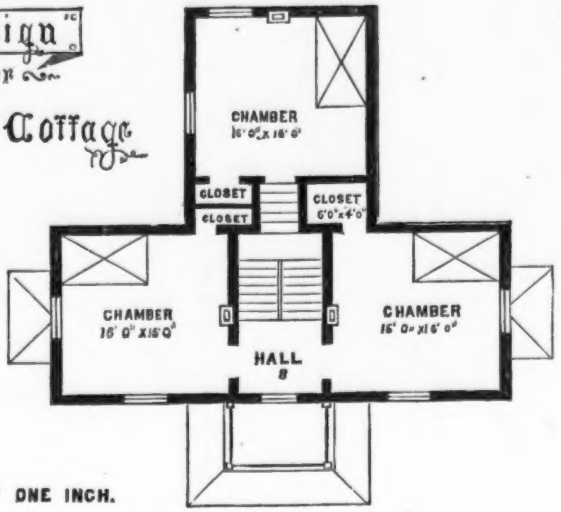
The porch possesses a novelty in containing the only available closet-room on the first floor, built into the sides of the entrance to the hall.

The chamber plan admits of but three bed-rooms, but all are of large size and pleasant outlook. There being no attic, if further chambers are needed, the room over the kitchen can be conveniently divided into two of moderate size for domestics or children.

The cottage is intended only for a small family, with few servants or children, and with the present design could hardly be altered or enlarged, and yet retain its simplicity and beauty. A row or block of such a class of houses in any of the suburbs of our city would form a striking sight. Cost would be not far from $8000.

# Design for French Cottage




SCALE 16 FEET ONE INCH.

Ground Plan

Chamber Plan

## New Pear—"The Star of Bethlehem."

A VERY desirable new pear, bearing the above name, has been introduced to our attention.

Specimens as received by us speak highly in its favor, both as to color, quality, firmness, and size, and it seems worthy the attention of pomologists.

Fruit is of very large size, same shape as Beurre d'Anjou, obtuse, regular form, surface smooth, deep yellow color, slightly russeted, with handsome red cheek on side nearest the sun. Stalk is quite short, about an inch, skin very thick, imparting a slightly astringent taste to flesh nearest the surface. Flesh, yellowish white, somewhat coarse, but buttery, melting, and with a fine, sweet, excellent flavor. Season of ripening, 1st of Sept. Originated at Bethlehem, Pa.

A correspondent furnishes some particulars as to growth:

"It strongly resembles a persimmon tree; habit is low and spreading, the branches *never* assuming in the least degree a perpendicular or upright form; branches are very enduring, and capable of bearing heavy weights, even to the extremities of the limbs. It is wonderfully productive, and a sure and regular bearer. It possesses a very desirable quality, that is, retaining its rich flavor and juice and firmness long after the ripening period. The flowers appear to be proof against the destructive influences of late frosts.

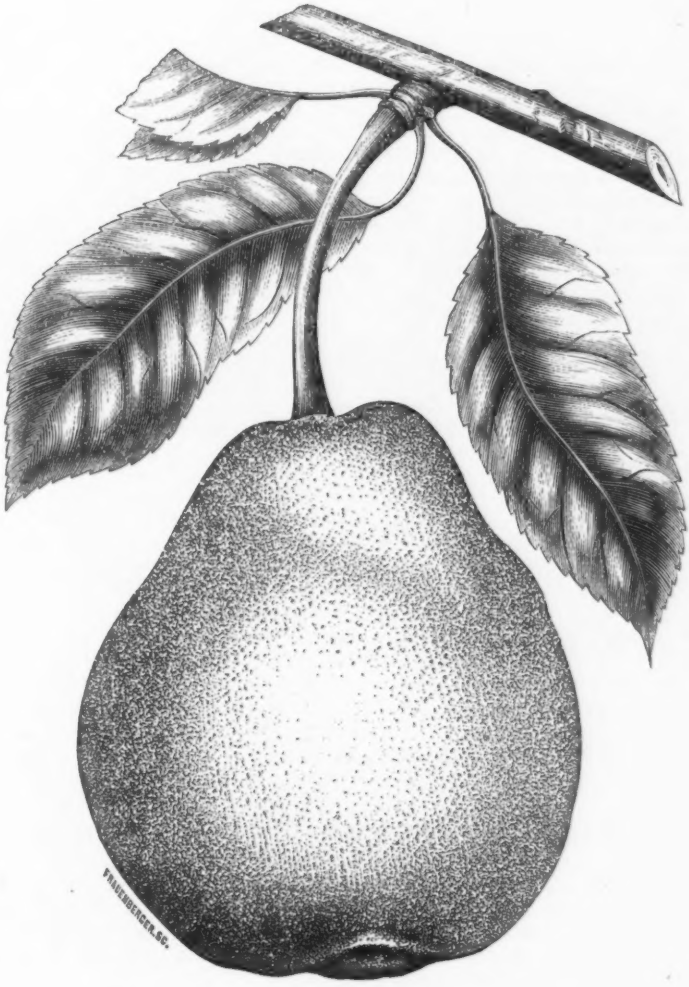
"There are but *two* trees of this variety now growing. One was grafted with a scion from the parent stock; the latter (the parent) is now about one foot in diameter, and about twenty-five feet high."

We are indebted for specimens to John H. Jenkins, of East-Bethlehem, Pa.

## St. Joseph and Benton Harbor, Michigan.

BY O. S. WILLEY, MADISON, WISCONSIN.

THE former of these places was once a rival of Chicago, and aspired to be *the* city of the West; but finding that the town was on the wrong side of the lake, or else that the lake was made upon the wrong side of the town, the fathers of the city had to abandon their expectations, and "let Chicago be a city, notwithstanding they had the best location;" and so through the kindness of St. Joseph's people, Chicago grew to be what she is. But it's an ill wind that blows no one good. Chicago grew; with it her railroads wove her network all over the North-west. It grew in proportion; and a vast country, which failed to produce *all* the luxuries of life, was fully developed. These must come from somewhere; man's appetite must be satisfied; the thing not produced is only so much the more desired. Over a large proportion of the prairies of the North-west, as well as the towns and cities which they support, fruit home-growers, and fruit is the exception, and not the rule. From whence, then, must it come? From "somewhere," like the oranges and pine-apples of the tropics. Southern Illinois has been noted for its abundant supply; indeed, one would almost think they "fed the people," to see the amount of green fruits they send abroad. We of Wisconsin are in a favored climate in this respect; with Illinois fruits at least a month earlier than our own or even Michigan; then come the very late-grown sorts we receive from the different peach-growing districts of Michigan; and who could wish for more? It is for its fruit that Michigan is becoming noted; and nowhere more so than at St. Joseph and Benton Harbor. I took a hasty look at these places a few weeks since, and was agreeably surprised at what I saw and heard; and though the people are very reticent, and don't like to appear in public, I shall venture to say that the fruit yield of every description is very flattering. St. Joseph lies high and sightly from the lake, affording a beautiful sight either



"The Star of Bethlehem" Pear.

from land, upon vessels and steamers upon the lake, or from the latter to the city. Landing, we find the soil exceedingly sandy for some distance from shore, yet sufficiently calcareous to give it strength for vegetable growth; and upon seemingly the most sandy portions, vegetation looked uncommonly healthy. Never saw thriftier clover than there. Peach-trees were "a sight to behold." We were there but one day, which was improved to the best of our advantage; but we took no notes. We were told the largest orchard measured about sixty acres. Went through quite a number of orchards, and did not see a sickly or injured tree caused by severity or changeableness of the climate. And here we might say, their location upon the lake is such that our Wisconsin winds blow to them its dampness, so modifying zero's cold that the tender buds of many tender plants stand unharmed. But this dampness is not without its results and effects on the human system, as more or less fevers and chills were ready witnesses. Tea and perpetual roses were wintered out, without protection save that by nature given. Lawton blackberry, which in Wisconsin is worthless, there is perfectly reliable, bearing heavy crops of delicious fruit. The change between the fruit-trees in general of Wisconsin and those of Michigan was so apparent we could not help but mark this effect of climate. Orchards are well cared for. I have visited many fruit districts of Illinois, but have never seen fruit-trees tended with that attention as was here apparent. Weeds and grass in the orchard were one of the exceptions we failed to find. With no crop save that of fruit required from the soil, perfect cleanliness appeared everywhere. Much attention is given to raspberries and strawberries. The former coming into market at the same time as Illinois blackberries, it is found more profitable to dry them, when they have a ready market at 50 to 60 cents per pound. Benton Harbor is younger in its growth. About "seven years since, they had a connection with the rest of the world" by a bridge across the St. Joseph River. Of course it looks young, and has no lofty, pretentious residences to please the eye. Its orchards look equally well with those of St. Joseph. Pears and cherries are receiving much attention. Aside from the borer, they say they have no insects which do them harm. This (the borer) attacks the peach-trees, requiring close examinations every season. Still, their depredations are not of a very serious nature. Real estate is very high; and in this respect, if no other, they may rival Chicago. Several shops or manufacturing establishments are constantly at work making berry-boxes—the largest one working from twenty-five to fifty hands, making the Halleck patent raised bottom square box. They also make the peach-basket, this being generally preferred to the box. "For nine years there has not been a total failure of fruit, and but one partial failure;" so said those who knew. With such a history, who could make the good people of these towns believe they could have a rival for success? We would not try, and only wish for them that their prospects may never be less.

## Lygodium Palmatum—Climbing Fern.

THIS most interesting of all the Felices—interesting because of its rarity, novelty, and peculiar habits—is found but rarely, and is an exclusive inhabitant of America.

There are but few localities, at present known, where it grows; the only place where it has been found in quantity is at East Windsor Hill, Ct., and here it grows in greater abundance than in any other known place.

About twenty years since, it was shown, and the place of its growth imparted to a very few individuals outside of the town, and, until within some six or eight years, the secret was sacredly guarded; but from seeing a few specimens, and its singularly beautiful winter ornamental appearance adorning the parlor or sitting-room of friends, inquiry arose to what it was, and where it was to be found; and gradually the secret came to be no secret, and for a few years past it has spread fast, and load after load of excursionists came out from Hartford, and adjoining towns, in August and September, to gather it, till last year as many as seventy were counted on a single afternoon, gathering and carrying it away, pressing

it into and tying in sheets, decorating their horses and carriages, etc., with it. At last, it becoming evident that it was likely to be entirely destroyed in its native home of abundance, a few individuals interested in natural science, interested themselves and the proprietors of the ground where it grows the most abundant, and procured the passage of a law at the last session of our State Legislature to protect it, by imposing a fine and imprisonment on the gatherer without his or her having first obtained liberty from the proprietor of the land whereon it grows. Thus we hope to save it from wanton destruction.

The peculiarity of this fern is, that it propagates itself only by its spores borne in its frondlets on the upper portion of the plant, and resists all efforts heretofore made of transplanting—although frequently attempted by taking it with portions of the soil in which it grew; and gathering it, as has been the practice, before these spores are shed, or the plant has ripened prepared to continue its kind, has largely diminished it and would have, in a very few years, quite exterminated it unless interfered with.

Within a few miles of this, there is a place where it formerly grew sparingly, which has been destroyed by this persistent gathering. There are several places along the Atlantic coast where it grows sparingly, and it will be found much more sparingly than some would have us suppose; for the sake of science it should be sacredly guarded and protected wherever it grows or is found.

The plant is found at East Windsor Hill in rather moist, grassy woodlands; wood, of small growth, with underbrush, growing and twining about small sprouts, etc., beside the public highway. Its smooth leaf and slender, twining, flexile stem, with short, alternate petiole branches, two-forked, bearing palmately four to seven-lobed sterile frondlets, surmounted, above, with its delicate fertile frondlets forming a terminal panicle, form a most interesting study; and, when pressed, it forms one of the most beautiful of ornaments, hung around wall-pictures, or fastened to lace or other white curtains; so that no wonder it is so eagerly sought for parlor ornament, as well as for the adornment of churches on special occasions.

W. H. W.

## Shade-Trees—Hints for Street Planting.

THE following are extracts from a paper prepared by Mr. William Saunders, Superintendent of Public Grounds at Washington, and submitted to the Washington Board of Aldermen.

The principal qualities that a tree should possess to render it suitable for street planting are the following:

1st. A compact stateliness and symmetry of growth, as distinguished from a wide-spreading or pendent form, so that the stem may reach sufficient height to allow of a free circulation of air below the branches.

2d. An ample supply of expansive foliage, of early spring verdure, and rich and varied in the colors and tints assumed during the ripening of the leaves in autumn.

3d. Healthiness, so far as being exempt from constitutional diseases, as well as from those maladies frequently engendered in some species, by peculiarity of soils and atmospheric impurities.

4th. Cleanliness; characterized by a persistency of foliage during summer, freedom from fading flowers, and exemption from the attacks of insects.

5th. It should be easily transplanted, of moderately vigorous growth, and not liable to throw up shoots from the roots or lower portions of the stem. A tree of extremely rapid growth is generally short-lived, and should be avoided.

6th. The branches should be elastic rather than brittle, that they may the better withstand heavy storms. And lastly, there should be no offensive odors from flowers or foliage.

While it is perhaps impossible to procure a tree possessing all of these qualifications, we can select those species that make the nearest approach to perfection, of which the following are the most available:

1. Silver Maple, *acer dasycarpum*. This is very appropriately held in high estimation,

for planting on streets, and possesses most of the qualities required. It is of rapid growth, of upright form—unless thrown out of its normal shape by injudicious pruning—foliage ample, at the same time not so dense as to prevent a partial circulation of air, which is much preferable to a dense, impenetrable mass of foliage, near buildings. Neither is it subject to the attacks of insects, and it has the further merit of being cheaply propagated.

2. Sugar Maple, *acer saccharinum*. This is the most beautiful of all the maples; indeed, there are but few trees of any kind that can compare with it in stately gracefulness; supporting a heavy head of foliage on a comparatively slender stem, imparts a great degree of elegance to the symmetrical contour of the tree. The superb color of the foliage during autumn renders it a conspicuous tree during that period of "tints and shadows." As a street tree it has superior merits and attractions.

3. European Sycamore Maple, *acer pseudoplatanus*. A tall tree, with broader leaves than either of the preceding, and equally valuable in every respect.

4. American Linden, *tilia americana*, a well-known native tree of lofty and robust growth, well fitted for wide streets and avenues, affecting the suburbs rather than a crowded city. It is possessed of a wealth of foliage, and fragrant flowers, grows readily after removal, and of cleanly habits. Its European congener, *tilia europea*, is also a fine tree, but of late years has been much injured by insects.

5. Tulip Poplar, *liriodendron tulipifera*, or tulip-tree, is one of the most unique and beautiful trees of the forest. None others can surpass it in the beauty of its foliage in spring, or of its flowers in early summer. The leaves change to a bright yellow tinge during fall, and are very attractive at that season. No other tree will harmonize so well, or be in better keeping with the public buildings in this city. Its tall columnar stem and majestic growth specially indicate its availability for decorating the vicinity of large buildings and road promenades.

This tree is rather impatient of removal, and is consequently rather difficult to transplant, if treated in the ordinary mode; but there is no difficulty in preparing young trees for successful removal, so that this objection is easily overcome.

6. American Elm, *ulmus americana*. The elm has been so commonly planted that in some sections of the country, street tree and elm are synonymous terms. Its repute has been greatly impaired on account of destruction to the foliage by insects; but all localities are not equally subject to these destroyers, neither are all seasons alike favorable to their increase. The great beauty of this fine tree and its rapid, towering growth are recommendations for wide streets.

7. American Ash, *fraxinus americana*. A fine tree, of erect growth and expansive top. Its pinnated foliage imparts a certain expression of lightness, which, combined with massive shade, gives the plant quite a distinctive character. It is easily transplanted, growing freely after removal, even although of considerable age and size.

8. Horse-Chestnut, *æsculus hippocastanum*. The horse-chestnut is a well-known heavy-foliaged tree, surpassing most others in the beauty of early spring verdure. Its hyacinthine flowers are also conspicuous objects. The compact, dense form of growth causes a dense shade, and in consequence it should not be planted very close to a building. On poor, thin, gravelly, or sandy soils, it lapses into a brown study during dry summers, but is always satisfactory where the ground is deep and rich.

These comprise the best of a list that might be considerably extended, and are probably sufficient for all practical purposes. In planting a line of trees on the street or straight avenue, it is in best taste to confine them to one species or kind. Variety in this connection only tends to confusion. The beauty of grandeur that is produced by continuity and repetition of the same objects is destroyed by introducing a mixture of varieties, and is as much at variance with good taste as would be a mixture of orders in the columns of a building.

To enumerate all the trees that should be rejected would involve an extensive catalogue. If any practical botanist was asked to name four trees the least of all fitted for street planting, he would, in all likelihood, name the white poplar, ailanthus, buttonwood, and yellow-locust.

## American Pomological Society.

***Twelfth Biennial Session.***

IN reviewing the proceedings of the American Pomological Society, and the successful exhibition of native fruits at Philadelphia last September, several points of more than usual strength are brought to our notice:

1st. To what an immense extent American horticulture has developed itself, both in width of territory and almost uncounted varieties of fruit.

2d. The astonishing number of *new* fruits that are appearing every year, almost too fast for proper horticultural recognition and examination.

3d. How almost impossible it is for even so high an authority as our National Pomological Congress to determine with sufficient accuracy the value of all these new varieties.

As horticulturists, mutually anxious to see all disputed questions of pomology decided by some reliable authority, fruit-growers look to our American Pomological Society for final appeal; but, alas! owing to limited facilities, or the tedium of protracted sessions, or the want of attendance of those most qualified to speak, the real influence of the society has never yet been such as it deserved to hold. We could wish that it came oftener, and was better attended. The address of President Wilder is congratulatory on the progress of our American horticulture, rejoicing in the increasing interest felt in horticultural pursuits, and drawing favorable contrasts between the present and the past of our history. Alluding with grace to the old association of the first formation of the society, or the reminiscences of years ago, when but one agricultural newspaper taught American husbandmen the science of agriculture, he passes through the importance of studying the subjects of "inconstancy of seasons," and "deterioration of varieties," touches feelingly on the deaths of William R. Prince and Henry H. Crapo, of Mich., and concludes with the expression of cheering hopes for the future, through the opening of new territory, additional facilities for intercommunication, and especially the good accomplished through the agency of the press in the dissemination of useful horticultural information. One of the most beautiful passages of the entire address seems so full of sympathy and love for natural beauty that we ask all to read and remember it:

"What greater temporal comforts can we leave to our heirs than the fruits of the orchard and garden? What more valuable testimonials of a philanthropic life than the trees we plant for future generations? Trees are the best landmarks of a noble civilization. Trees are a rich legacy to our heirs. Trees are living monuments to our memories. Fruits are perpetual mementoes to our praise. The man who plants a fruit-tree is a benefactor of his race; and when we shall have gone to our rest, when the fragrance of vernal bloom shall no longer delight the senses, when the verdure of leafy summer shall no longer inspire the soul, when the golden harvest of mellow autumn shall no longer gladden the sight, the tree shall live to bless those who shall follow us. And when, in after ages, posterity shall recline under the shade of the trees planted by our hands, and gather from their bending branches the luscious fruit, will not some grateful heart remember the giver, and ask, '*Who planted that old apple-tree?*' How beautifully is this sentiment portrayed by our own poet Bryant:

'What plant we in this apple-tree?
Sweets for a hundred flowery springs,
To load the May wind's restless wings,
When, from the orchard row, he pours
Its fragrance through our open doors.'

'What plant we in this apple-tree?
Fruits that shall swell in sunny June,
And redden in the August noon,
And drop, when gentle airs come by,
That fan the blue September sky;
While children come, with cries of glee,
And seek them where the fragrant grass
Betrays their bed to those who pass,
At the foot of the apple-tree.'

"And when the thousands who have enjoyed its fruits and shared its blessings are buried, like its own roots, deep in the bosom of mother earth—

'The children of some distant day,
Thus to some aged man shall say,
*Who planted this old apple-tree?*'"

The discussions that followed, lasting over three days, commenced with apples, and was the best sustained department on the entire list.

The following new varieties were noticed, and favorably received:

*Edwards Early*, of Va., is early, medium size, striped, sub-acid, flesh firm, and excellent flavor. The tree is both a good grower and a good bearer, ripens 1st July, or at same time as Early Harvest.

The *Pilot Apple* originated in Nelson Co., Va., is a winter apple, striped, round, large, bears well, considered first class.

*Early Congress*, of Me., apple said to resemble the Gravenstein. Is early, ripening from 25th July to 1st September. Said to be earlier and more prolific than the Gravenstein; brings excellent prices.

*Stark Apple* vs. *Pennock*. This vexed question was finally settled by a statement of Mr. Bryant, of Illinois, that the apple sent to the committee as the Stark was really the Pennock, which has long ago been discarded in Illinois. Dr. Warder stated that any one who knows the two apples would be aware that they are not identical.

*Missouri Pippin*. Described as being one of the best market apples in Missouri and Kansas. Very productive. Resembles the Ben Davis, nearly the same form, and keeps until March. Is of fair quality, rather better than the Ben Davis.

*Grimes Golden Pippin*. Mr. Wood, of Ohio, stated that he had known it for twenty years, and it had proved to be a good bearer, regular, medium size, quality first-class.

*Wagner Apple* did well in Illinois, and was found profitable and valuable. Is somewhat irregular in growth, and should be planted close and trimmed low.

Kelsey, Kansas.—It is a profitable apple to plant in rows between the rows of other varieties. Say, plant an orchard of other varieties thirty feet apart, and plant the Wagner between them. It bears early, and pays for itself before the other varieties begin to bear. It exhausts itself early, and when it ceases to be profitable cut it out, and there is a good orchard left.

Arnold, Ontario.—I have had it growing twenty years. It grows well, is hardy, profitable, overbears sometimes, but is very profitable with us and highly prized.

Moody, N. Y.—I planted Wagner twenty years ago. If root-grafted, it should be grafted on the crown of the root, and only one graft made on a root. So grafted, it will last as long as a stock-worked tree.

Kelsey.—I had as soon graft it or any other fruit on the second cutting of a strong root as on the crown.

Moody.—I have discovered a decided distinction, in both the nursery and the orchard, between trees worked on the crown of the root and on the second cutting. I would not give a farthing for ten thousand trees grafted on second roots.

President Wilder.—Can grafting at the crown of the roots be called root-grafting? I would not so call it.

*Clapp's Favorite Pear* had proved excellent in Western New-York and New-Jersey, Pennsylvania, Maine, Vermont, New-Hampshire, and Massachusetts. Found to be hardy, and holds its leaves well on light soils. To prevent rotting at core, it must be picked early and permitted to ripen up.

Wilder, Mass.—Mr. Clapp has one hundred trees of this variety planted for his own use. He believes it to be the best and most profitable early pear in existence. It does rot at the core if not picked early. The specimens on exhibition here were picked twenty days ago. It should be picked the 20th of August, or earlier, in Massachusetts; so picked, it does not rot at the core. It ranks with the Sheldon. It will keep until ripe, when it must be eaten, or it will rot right down.

*Butler Pear*. Is a very productive late variety, ripening in October in Pennsylvania. Holds its leaves well, and considered valuable.

*Doyenne du Camille.* Does not succeed, new wood kills badly, and does not graft well on other stocks.

*Dana's Honey.* Has done well in Western New-York and New-Jersey. Does not bear early, and when in producing condition needs considerable thinning.

*President Pear.* Described as being a large pear, as large as Beurre Diel, not first quality, and dull color. Is a good bearer and vigorous grower. Was not recommended as a market variety.

*Rousselet de Meestre.* Recommended as an amateur variety, better quality than Belle Lucrative, fine bearer, and a little more color, but not ruddy enough for market.

*Souvenir du Congrès.* Very large, a seedling of the Bartlett, ripens earlier.

*Duchesse de Bordeaux.* Good large size, fine quality, but dull color.

*Emile d'Heyst.* Has done well in Massachusetts and Georgia. Tree hardy, great bearer, producing its fruit in clusters, excellent quality, admitted to be a very promising variety.

*Goodale.* Described by Wilder and Hyde as a very beautiful tree. Growth upright, holds its leaves well, large size, handsome color. Must be picked early. Considered very valuable.

*Doyenne Boussock.*

Mitchell, Pennsylvania.—It is of superior flavor.

President Wilder.—I have had it twenty-five years. It is excellent with me, and of very good quality, though not first-class. I am astonished to hear that it cracks. We make it a constant bearer. We pick off about half its fruit in the middle of August. It is a vigorous grower. In Belgium, Mr. Berckmans told me he had seen trees of it eighty feet high and three feet in diameter.

Quinn, New-Jersey. –I have it, and like it better every year. It colors well and sells well.

President Wilder.—I never knew it to injure on tree or fruit.

Earle, Mass.—It is a very valuable fruit to us.

Mills, Ont.—It is highly esteemed with us, and is free from all crack or rot; it is perfectly healthy in tree and fruit.

Coit, Ct.—I have it growing, both as standards and dwarfs. Tree is healthy and fruit does not crack with me.

Hovey.—It is a well-known pear. In market it is only second to the Bartlett in popularity. Tree is a vigorous grower and productive. Its fruit now (Sept. 16th) is in fine condition for market. It gives good satisfaction. It is remarkable for its uniformity in size. We take off about one eighth of the crop of smallest specimens early, and they ripen up nicely thus picked. It is not high flavored, but is very good, and suits the palate of the public.

*Josephine de Malines.* Had not done well. Poor grower and poor bearer, although quality excellent.

*Baronne de Mello.* Considered of highest quality, delicate flavor, fair productiveness, large size, russety color, season November, considered promising near Boston, could not be recommended south of Philadelphia.

*Counseilleur de le Cour.* An autumn and winter variety, very large, but not reliable bearer, a fine tree, holds its foliage splendidly, but not fine color.

*Frederick of Würtemberg.* Same as Beurre Montgeron.

Satterthwaite.—I have one tree twelve years of age, which I consider very valuable; always colors up beautifully, and is worth more for market than 100 Bartletts.

Coit.—Has borne very abundantly with me this year, quality piquant.

*Edmunds Pear.* Quality almost unsurpassed. Good to eat but not to sell, very productive, must be picked early.

*General Totleben Pear.* A crooked but very vigorous and strong grower, hardy, large, late fruit, productive, first quality, keeps until December or January, must be picked early or will rot at the core.

*Kirtland Pear.* Very valuable for home use. Very handsome, must be picked two weeks before fully ripe, and ripened in a dark room.

*Japan Pear.* A great novelty. A graft put out last year is producing this year fifty-two specimens, excellent for cooking, healthy, vigorous, largest foliage of any pear grown.

*Mount Vernon.* A seedling of Mr. Walker, near Boston, which came up near his office-door, has a peculiar flavor, decidedly like cinnamon, medium to large size, ripens last of October; of all the new pears, considered one of the best.

*Souvenir d'Esperin.* Very handsome, but worthless, not fit to eat.

*Abercrombie.* Small, slightly pyriform, very fine flavor, ripens early in June in Southern States, as early as d'Eté, but a poor grower.

*Sheldon.* A good grower, good bearer, one of the best early pears, cracks in some places, and must be picked early.

The discussion of pears here closing, we will resume in our December number notes on *small fruits.*

### *Newburg Horticultural Exhibition.*

Of the various horticultural exhibitions held the past two months, we found none of local interest to exceed in value that held at Newburg Sept. 29–30. In some respects it was more enjoyable than that held in Philadelphia during the session of the American Pomological Society. The display of fruit was not as large, but more choice and more finely colored. The citizens of Newburg contributed freely from their gardens and fruit-grounds, and the display proved an eminent success.

We would note specially the fine collection of grapes, filling one entire table, and presented by J. H. Ricketts, D. Smith & Son, Francis Scott, and others, numbering over twenty varieties of hot-house grapes and twenty-five or more of out-door grapes.

The season has been most favorable for the growth of all kinds of grapes, and without exception the bunches were large, fine, and luxuriant. Some of our old standard favorites fairly astonished us with their beauty of clusters and fine quality. We observed several new varieties of excellence.

The *Senorqua*, a seedling, by Dr. Underhill, from Concord, fertilized with Black Prince. It has a very good flavor, juicy, thin skin, no astringency, bunches very large and compact, berries large, black, and deep bloom. The vine is as hardy and vigorous as the Isabella, and quite as productive, but the bunches are much superior in fine, regular forms.

The *Croton Grape*, a seedling, also by Dr. Underhill, is also exhibited for the first time. Is a white grape, very sweet and vinous, bunches very large and loose; berries of medium size; quality best.

The collection of hot-house grapes was quite a credit, some plates containing mammoth specimens of the White Nice, Boxwood Muscat, Red Lombardy, Prince Albert, and Muscat of Hamburg, often a foot long.

Nearly all prominent varieties of out-door grapes were well represented, but we were especially pleased with the excellence of the Ionas, which were unusually splendid, and quality very superior. Wherever we saw the vines growing, we found them very vigorous and fruitful.

The *Isabellas* are fairly of monstrous size, outranking even the Concord.

*Allen's Hybrid* showed very fine large bunches, of clear white color; quality excellent.

The *Israella* is becoming quite a favorite with those who desire an early black grape of good flavor and productiveness. It bears a fine, compact bunch, and is quite vigorous.

The display of *Pears and Apples* was of a superior nature, the collections of Alfred Bridgeman, Henry Cornell, and J. H. Ricketts being especially noteworthy.

The specimens of fruit seemed unusually finely colored, and the tables had quite a gay appearance. We noticed that the Duchesse d'Angoulême, a success almost everywhere else, is here a failure, very few specimens being on exhibition, and those of indifferent size and appearance.

We noticed also several seedling peaches, and one beautiful little seedling apple by D. A. Morrison, which is of small size, but most beautifully colored, with brilliant red stripes and occasionally white over a portion of the surface. Its fine appearance would make it a very salable variety. The varieties of pears on exhibition exceeded one hundred.

The entertainment seems to have been one of the most successful ever held in the city, and in real excellence hardly excelled in the entire country. It would be well for our horticulturists, who desire to see good fruit exhibitions, to take occasional pilgrimages thither.

### *Early Bearing of Fruit-Trees.*

Cultivators often err in allowing their orchards to bear too heavily in their youth. After waiting for five, six, or more years, the first appearance of fruit is hailed with delight, and pleasant anticipations of a profitable harvest are naturally formed. The young tree is permitted to carry all the fruit that sets, and in its first efforts it is fairly overloaded.

This practice is productive of the greatest injury, and subsequent years prove how deeply the errors of the first year affect the bearing capacity ever afterward. *Thinning* fruit is something more than theory; for it deserves to be ranked among the precepts of the golden rule of successful fruit culture. A few specimens only should be allowed to hang on the tree the first year, and the number should be increased only moderately year after year until the tree is vigorous enough to bear constant and heavy crops.

### *Effects of Pruning in Summer.*

A correspondent of the *Canada Farmer* has been examining closely the comparative advantages of pruning in winter or summer, and is satisfied that June is the best month:

"Attention has been called by some horticulturists to the fact of its being injudicious to prune trees—either apple, cherry, or plum—in the winter or early spring months, and also to the injurious effects arising therefrom; at the same time great stress has been laid on the ad-

visability of pruning (whether heavy or light, large or small boughs) during the latter end of June, and especially to cut quite close to the stem or trunk with a smooth, clean cut, and not pared in the least at the edges. This fact is quite supported in the evidence of some trees pruned by a neighbor in March, (simply because he had nothing else at that time to do,) and trees pruned by the writer in June. In the latter case, although some boughs were quite large, yet a ring of green fresh bark gradually closed all round the part where the limb was severed, and the very slight exuded moisture, caused by cutting close to the trunk, kept the part very slightly moist, and consequently free from any tendency to decay. Were it left to project, as some advise, the stump would have become dead and dry and full of cracks, with no prospect of healing over. My neighbor's trees are precisely in this condition in many instances."

### *Slitting the Bark of Cherry-Trees.*

THE bursting of the bark of the Heart and Bigarreau cherry-trees is often as serious a danger to the health and life of a cherry orchard as the black-knot on the Morello cherries. Various devices have been proposed to remedy it, but none successful; some recommending a light, dry soil—others, shade for the trunk of the tree; but a correspondent of the *Canada Farmer* recommends *slitting the bark of the trunk.*

"Cherry-trees are benefited by having one or more longitudinal incisions made with a knife once a year, about June, from the forks to the ground, and also longitudinally down each limb from the upper part to the forks of the trunk. An old friend of mine advised me to do this, saying that unless it was done the trees could not grow, and would die, or not bear any fruit; would exude gum, and gradually get unhealthy. I followed the advice for these three years past, and certainly the trees are full, and bear well. But the most curious part of the operation is, that in a week after the incision is made, if done in June, the outer, dead, horny rind will not meet again over the cut, nor will it do so if made in four places at different sides of a limb or the trunk. Sometimes the gaping aperture will be one eighth of an inch from meeting, on four sides at once. It seems to me that the tree is bound up in a tough, hard, thin shell, and can not so well force its expansion; but the moment an incision is made, relief is obtained similar to that experienced when ladies' tight lacing has suddenly been cut during fainting fits in church or elsewhere. The fact I have seen proved in cherry-trees many times, but do not know why nature has clothed them with such an unyielding skin as to require opening for natural growth and development. Attention is particularly directed to the time at which any incision in the bark can most safely be made, as some experiments made in March proved injurious; the cuts never healed properly, but continued to exude gum, and a growth of diseased woody matter on each side of the cut was the result, whereas incisions made in June were followed by rapid healing over of the part, caused, no doubt, by the exudation of sap, which at once forms healthy young bark."

### *The Rural Carolinian.*

WE have received the first number of a new magazine, with the above title, published at Charleston, S. C., by Walker, Evans & Cogswell, and edited by D. H. Jacques. It is both edited and published with most excellent taste and enterprise, and its first number speaks handsomely in its favor. Like nearly all other Southern magazines, it is devoted to mixed agriculture, horticulture, rural improvements, and items for the family circle. We trust its record will prove eminently prosperous.

### *Strawberries vs. Sweet Potatoes.*

WE have before us a Vineland paper containing the record of several experiences in strawberries and blackberries; also one in sweet potatoes.

The average returns to even the most successful strawberry-growers varied from 8c. to 14c. per quart, or $100 to $200 per acre; not including cost of picking, cost of baskets, or cost of cultivation. Only four instances of such profits are given.

But we observe, on the other hand, a record of experience in sweet potatoes which proved very successful, the cultivator realizing $400 from two acres of ground. As the sweet potato loves a light, dry soil, we should think it would prove a more simple and, at the same time, a more remunerative crop for South-Jersey soil than berries.

### *Grapes in South-Jersey.*

THE grape crop in South-Jersey has proved uniformly successful. Full crops have been obtained and fair prices realized; from 8c. to 15c. per pound for Concords. At this price, vineyards have yielded from $400 to $1200 per acre. The returns from grapes have proved a welcome gift to those who lost on strawberries.

### *Saving Girdled Fruit-Trees.*

In the February number of The Horticulturist, Mr. Quinn gave an account of his method of saving pear-trees girdled by the mice. We observe, according to the *Nashua Telegraph*, N. H., Mr. Lemuel Town of that place has been equally successful.

"A correspondent of the *Nashua Telegraph* says Mr. Lemuel Town, of that place, practices successfully a method of his own invention for saving girdled trees. His method, which was first applied to a fruit-tree in his own garden in Milford, is to graft five or six scions as large round as a goose-quill, and long enough to reach over the girdled place, into the tree. The live bark is first notched above and below the girdle, the sprouts sprung into place, and the ends fastened with wax. These scions grow rapidly, and in time spread over the whole girdled surface. Two thrifty apple-trees standing upon the premises of Mr. Samuel B. Weston, on Temple street, in Nashua, were completely girdled by mice eighteen years ago, one of them having the bark taken off over a foot in width on one side, and were saved in the above manner by Mr. Town, and they are still in good bearing condition."

### *Too Much Shade.*

The *Springfield Republican*, in an article commenting upon the beauty of our New-England villages, with their cottages hidden under the canopy of majestic old shade-trees, suggests that they are as much an injury to health as they are a benefit to the landscape scenery.

"In all planting of trees, it is a universal fault that they are put in too thickly. The street or yard is bare, and one object is to 'make a show' as soon as possible. Consequently two or three times as many young trees are set out as ought to occupy a given space. Once planted, they are neglected; and though they grow imperceptibly, they do grow 'while we are sleeping,' as well as when we are awake, and before one would think it possible there is a thicket where there ought to be only a tree. Even then, in many cases, the owners refuse to cut them down. One comes to have a sort of fondness for a tree he has planted and seen every day for years, and hates to lay the ax at its roots; and if the man of the house makes up his mind that the sacrifice is necessary and wise, quite often the women of a household will make a point of preventing it by their sentimental pleadings and tears, though they may be growing paler and weaker day by day, and though their children may be growing up puny and white, like potato sprouts in a cellar, all on account of the trees they refused to have removed.

"This affection for trees, especially those that surround one's home, which perhaps one's own hand has planted, is very creditable, and to be encouraged to a reasonable degree; but the unreasonable cultivation and gratification of it is working great harm in many instances. The old places in New-England are, very many of them, getting to be too shady for beauty or for health. There are streets in Springfield which the sun of the longest and clearest days of July can not penetrate; and houses where the sun is the most unfrequent of guests in the living-rooms. And what is true of Springfield is true to a greater extent of many other places. We all know of people who are pining away, sick of no apparent disease, but clearly destined for early graves, and all for no reason but they will persist in living in the shade instead of the sunlight and air that God made for them. In every old town of New-England may be found one or more ancient houses, situated in the depths of what has come to be a forest, from which the old stock, healthy enough one or two generations ago, has all died out, or been saved from death only by emigration; and yet probably no one could have convinced the inmates, as one after another they went into a decline, that they were killing themselves by living in the shade.

"No house should be so shaded by trees, or otherwise, that the sun, with all its brightness and warmth, shall not strike into the living and sleeping rooms several hours each day. During the few hot weeks of summer its direct rays can be excluded by blinds or curtains, if desired, though even then the fact that it strikes the house is of great benefit in a sanitary point of view; but for most months of the year, in this climate, the sun should be freely admitted and welcomed. The carpet and furniture will be faded a little more rapidly, to be sure; but it is better to have these faded than to become a family of invalids. In all planting of trees in private grounds the preservation of the sun's influence upon the house should be carefully provided for by planting the trees at a distance; and when there is only a small yard, the smaller trees and shrubs alone should be used for the gratification of one's taste in arboriculture."

### *Fall Treatment of Fruit-Trees.*

John J. Thomas, during his experience with tree-planting, says:

"We have never succeeded better than by taking up trees about mid-autumn, heeling them in by burying the roots and half the stems, for wintering and setting out early in spring. In heeling in for winter, it is absolutely essential to fill in all the interstices among the roots very compactly with fine earth. Many trees are needlessly lost by carelessness in this particular. The roots are injured by dryness or mouldiness, and the mice find easy access among the cavi-

ties. To exclude mice effectually, the heeling ground should be clean and a smooth mound of earth raised on all sides about the trees."

### *List of Apples for Michigan.*

THE *Western Rural* recommends the following list for Central Michigan:

| | | | |
|---|---|---|---|
| Early Harvest | 25 | Spitzenberg | 50 |
| Red Astrachan | 25 | Baldwin | 50 |
| Duchess of Oldenburg | 25 | Canada Red | 100 |
| American Summer Pearmain | 25 | American Golden Russet | 25 |
| Fameuse or Snow Apple | 25 | | 400 |
| Rhode Island Greening | 50 | | |

### *Blackberries at Cincinnati.*

AT a recent meeting of the Cincinnati Horticultural Society, Mr. McGregor said that the Kittatinny Blackberry ripened about the same time as the Lawton, but the berry was sweeter. The Early Wilson ripened eight days earlier than the Lawton, and the berry was double its size, and though it requires more sugar, he considered its quality preferable to that of the Lawton.

### *Fruit-Trees for Shade.*

A CORRESPONDENT of the *Country Gentleman* thinks that if fruit-trees were planted instead of maples, we could have both shade, ornament, and fruit. Practical illustrations of the benefits of such a course are often seen. We have in mind two farmers whose land borders on the road. One of them has a nice row of maples, which furnish nothing but shade, and seriously injure his land. The other has a splendid row of apple-trees. They furnish shade, are ornamental, and do not injure the land near as much as maples. They also furnish a large supply of valuable fruit. Believing the last example much the best, we would recommend it for imitation.

### *Pinching Back Raspberries.*

A. M. PURDY writes to the *Rural New-Yorker* in behalf of close pruning of raspberries:

"First, by doing so they grow more stocky and require no staking, (if properly done.) Second, the crop is larger and more uniform in size. Third, they are more easily cultivated, as it is impossible to pass through a plantation of black-caps that are not kept within bounds." At the same time he claims that if *not* pinched back, and allowed to grow and produce at will, the plantation is ruined for future bearing.

"Well do we remember a plantation at South-Bend, Ind., of three acres of Doolittles, that was allowed to grow thus, and from which was harvested over seventy bushels the first bearing season of as fine raspberries as we ever saw; and the result was, that that plantation was ruined, and never yielded another crop that paid a farthing, while other plantations of the same sort, cut back the first year to within one foot of the ground, lasted for a number of years, and yielded large, paying crops every season.

"It stands to reason that any fruit-tree or plant must get *well rooted* before being allowed to yield a full crop; and, too, it is an admitted fact that if any tree or plant is checked in its growth, it will throw out stronger and more side branches, and grow much more stocky; consequently it seems strange to me that any person who has had any *experience* in growing fruits should argue against trimming back raspberries.

"Now, we have simply *practiced both* plans, side by side, and know if they are not pruned they must be staked. The crop will not average half as much, the plant is but short-lived, and it is impossible to get among them to work them out as they should be if left unpruned; while if cut back the *first* season to within one foot of the ground, and after that three to four feet, (the new growth as it attains that height,) they will be long-lived, and yield immense crops every season."

Mr. Purdy is right. Pruning is one of our methods of growing blackberries and raspberries successfully. We would not omit it under any circumstances.

### *Old vs. Young Apple-Trees.*

A CORRESPONDENT of the *Prairie Farmer* seems to think that the renovation of old orchards is at best but a temporary benefit, for they seem to relapse again into the original habits induced by neglect and disease:

"When I began business, about twenty-five years ago, on the old homestead, where I now am, I thought that I would rather have an old apple-tree than a young one. Accordingly I began the work of renovating the old orchard, which had been much neglected. I pruned the top, scraped the bodies, grafted many of the trees, plowed and manured the ground. And the trees flourished and grew finely for six or seven years. Thus far my opinion coincides with

'F. G.;' as long as the old trees cumber the ground, they should be cared for. But my experiment with the old orchard led me to think that I missed it in placing my sole reliance upon it for the future.

"After the impetus given to the trees by the trimming and grafting had, apparently, exhausted itself, they relapsed into the old unthrifty state, and I have not been able to revive them since so as to make them at all satisfactory, and have been forced reluctantly to abandon them.

"I feel that I have lost time and labor experimenting with the old orchard, and would advise any of your readers who may be similarly situated to plant a new one instead. For the time being, care for the old one until the new one is available.

"This planting a young orchard has many things connected with it of importance. I would not advise setting the new orchard on the site of the old one; I never saw trees thus planted that ever amounted to much. I am far from being scientifically educated, but think perhaps the reason is the old trees have exhausted the soil of the proper nutriment required for the trees."

### *The Government Garden at Washington.*

A CORRESPONDENT of the *New York Tribune* writes: "Among the attractions of the capital is the government garden, under the charge of William Saunders; and his management of pear-trees is worthy of note. It is simply to plant on good ground, give fair and clean culture, and let them grow. Pinching, pruning, and all those scientific and complicated directions derived from the French, and adopted by our orchardists, he considers worse than useless, for he attributes blight and other diseases to this treatment. Whether right or wrong, he has an argument in his favor which ought to weigh—the trees grow 'unconfined as Nora's tresses,' blight is unknown, and all varieties are loaded with fruit. It may be said that his plan suits such a latitude and soil as Washington; if so, let it be adopted there, and let pears be grown for the supply of the country. The fine varieties of grapes are also grown here without any disease, by placing two boards like a roof along the top of the trellis. I was surprised to see the China tea-plant growing vigorously in this garden. Mr. Saunders said it had stood without protection several years, and now it would seem that the growing of tea in this country is not to be considered with reference to the climate of Tennessee, or any of the Southern States, but as to whether the people desire to grow it. I can see no difficulty in almost any family, at least south of Philadelphia, and perhaps even north of it, growing their own tea, and if they are real lovers of tea, they ought to take the little care and trouble required; for if they do, they can have an article only equaled by such as is obtained in China itself, free from adulteration, and unaffected by the long sea voyage."

### *Early Rose in England.*

THE potato culturists of England have had varying success and failure with the Early Rose; but frequent successes elicit expressions of admiration. One grower raised forty-four pounds from one pound of seed, cooked them, and "found them splendid; never tasted any thing to equal them."

Another raised one hundred and five pounds from one pound.

### *Enormous Peaches.*

A PEACH-FORCER in England has succeeded in raising some extraordinary specimens of peaches. Two grown from the same eye weighed, respectively, nine ounces and eight ounces, and the girth of the larger was nearly eleven inches. This was an average size for all raised in the peach-house.

### *Pruning in August.*

THE *Germantown Telegraph*, in an article on pruning apple-trees, makes the following statement, which is published for the benefit of those who have orchards to take care of. Most of our orchards have been badly managed, as their appearance and condition show. Generally they have been pruned in spring, a time now considered injurious to the trees. "Here, at the North, we have no class of people more successful with orchards than the United Society, or Shakers. They consider their trees as organized productions, capable of being improved by proper care, and injured by neglect and mismanagement. Of course, they are careful to see them fed with proper diet, and in all respects dealt with as things of vegetable life, having constitutions to be protected and preserved as they should be. We were passing their village at Mount Lebanon, New-York, last August, and found them engaged in pruning some beautiful apple-trees by the wayside. The novelty, to us, of seeing pruning performed at this busy season induced us to inquire why it was done. The reason given us was, that at that season the sap was thick, and of course would not run to waste, and that, if pruned then, a healing process would commence which would eventually cover the wounds,

and protect the tree from all damage through cutting off branches. In a subsequent visit to the society, we were invited into some of the orchards, which had for years been subject to this system of pruning, and it was a luxury to see their healthy trees, free from the wounds of injurious pruning, and, in some instances, with scarcely a scar to show the operation had been performed."

## Floricultural Notes.

### *A New Turfing Plant.*

A NEW turfing plant, *Pyrethrum Tchihatchewii*, has been introduced to public notice in France, as a very desirable plant for turfing lawns, etc., in poor, hungry soils where it is difficult to make grasses grow. The foliage is dark green, and much cut or lancinated. The plant is very dwarf and quite hardy, withstanding equally well the drought of summer and the hardest winters. The flowers are white, and resemble daisies.

### *Large Hydrangeas.*

A CORRESPONDENT of the *Gardener's Chronicle* speaks of a hydrangea in his possession 36 feet in circumference, 11 feet in diameter, and 6 feet 7 inches in height, with 1270 blooms upon it.

Another correspondent refers to the frequency of the appearance of different-colored flowers on the same shrub:

"I have frequently seen them with blue and lilac flowers. In the same garden I have often observed plants bearing blue flowers within a few feet of others bearing pink or lilac blossoms. Sometimes there will be a couple of blue, then a pink hydrangea, and then blue again."

Still another correspondent, passing through an English village, observed several remarkable hydrangeas:

"They were then one mass of bloom; but singularly the colors in each plant varied in the proportion of about one third of the trusses of bloom being blue to the other two thirds rosy pink. These plants having but one base each, of which I have no doubt, it affords evidence that the variations in color in the flowers of the hydrangea is due to a sportive faculty only, and no other cause."

### *Magnificent Lilium Auratum.*

AT the Royal Horticultural Exhibition in England, August 17th, a beautiful lilium auratum was exhibited, perhaps the finest ever known. It was originally bought as a single bulb, at the price of three guineas, and has not since been disturbed, but has been potted on as one entire plant. It had eleven, fine strong flowering spikes, each about eight feet in height, bearing one hundred and fifty-two blooms, of which about one hundred and thirty were fully expanded. The specimen was universally admired, and received a special prize medal.

### *A Novel Plant.*

A FINE specimen of a new South-American *climbing* species of *Asparagus* has been exhibited in England, which when grown on a cord is very useful as a decorative plant indoors.

### *Rose Marechal Niel.*

"MY experience is, that to grow the Marshal to perfection it must be budded on the Briar—that is the great secret; and if planted on a south wall, it will do well, and produce abundance of fine flowers. All I have seen or have tried on the Manetti stock have failed."—*William Smythe, in Gardener's Chronicle.*

### *Rose Hedges.*

A CORRESPONDENT of *The Florist and Pomologist* writes as follows:

"Many persons, for reasons which are scarcely intelligible, object to see growing vegetables in a garden. Hence for many years I have been compelled to introduce something to shut them out of view, and I have found that roses make the best and most pleasing of all screens. We have also found the old Noisette Fellenberg by far the best sort to use. It must have a good deal of the monthly or Red China blood in the cross, as it is continually in bloom, and it may be had ten feet high on common hazel stakes; though of course stakes of iron are better.

"If a white hedge is wanted, Aimée Vibert is, in good soil, according to my experience, much

the best of that color; it is clear in color, free in growth, and an abundant bloomer. Both of them do well for cutting.

"Neither the Austrian Briar nor the Scotch Rose is of any use, in my opinion, for they remain so short a time in bloom.

"To yield variety, the following plan may be adopted: Place stakes ten feet high and ten feet apart along the back of a kitchen-garden border, which may be of any convenient width. From the ten-feet stakes drop down with rustic trellis, or fix stakes to five feet in the centre, making a festoon. Plant to each stake a hollyhock, and introduce between, different colors of sweet-peas and the Canary flower mixed, or convolvulus major, or any one of the endless host of facing-up plants."

### *Gladiolus Insignis.*

WHAT a gorgeous flower for decorative purposes this is, whether for beds, borders, or pots! Grown in the latter, especially in large sizes, it would be a fine thing to slip into large vases, where, for the time, it would look grand; or even if used to decorate the conservatory, it would form an object of the most conspicuous and effective kind. Every body should grow it in the herbaceous border, where, in conjunction with blue delphiniums and white pinks, it would form a rich combination. I saw the other day a fine bed of delphinium that looked the richest thing in the whole place; but it wanted relief and contrast, and if around it had been placed a treble row of this splendid gladiolus, with its rich orange-scarlet flowers, and outside that a broad belt of white pinks, especially one of the later blooming kinds, it would produce a sensational bed, I am sure. The bulb is quite hardy, and starts its growth in the autumn, consequently is green through the winter. Pots of it housed through the winter will bloom a month earlier, and I have no doubt but that it would force well. The graceful form assumed by the spikes, and the fact that the flowers appear on the upper side of them, tend greatly to add to its beauty. It is one of those rich decorative plants that, although easy of cultivation, are too seldom met with; indeed, I almost think in this day a plant has only to be easily grown to be as freely neglected.—*Alex. Dean, in Gardener's Chronicle.*

### *A Beautiful Annual Flower.*

THE Editor of *Colman's Rural World* recommends a pretty flower for general cultivation:

"One of the most charming and beautiful of annual flowers, or of any flower, annual or otherwise, is the *linum grandiflorum rubrum*, or large-flowered red flax. The habit of the plant is very much like the common flax, as also the shape of the flower. But the colors are bright, glowing scarlet and crimson, and it blooms in such great profusion as to make it very showy and attractive; a bed or border of it must be a brilliant object indeed on a bright, sunny morning. The single plant is of a branching, neat, slender, graceful habit, each branch bearing at the top a number of its beautiful, salver-shaped, scarlet blossoms, which, like all the other members of the flax family, open in the morning, remaining out during the day, closing up toward evening and dropping off, to be renewed next morning with dozens and hundreds of new blooms—and in this way it continues in bloom a long time—nearly throughout the summer. It is a hardy annual and of the easiest culture; may be sown under glass and transplanted a foot apart, or sown in beds where it is to remain, the plants being properly thinned out; thus, it must make a brilliant and beautiful bed. Both this and the varieties of perennial flax, *linum perrene*, are elegant and beautiful plants, and deserve a place in every garden."

### *The Ground-Nut Vine.*

THE *Working Farmer* says:

"There is a slender vine very common in the Eastern States that is seldom used for ornamental purposes, to which we would especially invite the attention of the florist. It is called the ground-nut, (*apiostuberosa.*) Its foliage is dark, thick, and very graceful. The flowers are remarkable. They are dark purple in color and present a peculiar waxy appearance, in dense pedunculate, axillary racemes. Their odor is wonderfully sweet, and it is so powerful and inexhaustive as to fill perpetually the air. The vine entwines itself among low bushes in its native state. A florist of our acquaintance supplemented the charms of her trellises of roses by entwining these vines among the branches. Her rooms were filled with fragrance whenever the windows were thrown open during the whole of the hot season. The flowers of the ground-nut vine last for a very long period. Remember this vine during your summer rambles."

### *Ash-Leaved Maple, (Negundo.)*

IN the rush for new and foreign trees, this, one of the most useful and beautiful of the maple family, has been overlooked. I have used it in various ways, as fuel, as posts, as vine stakes, for shade and for sugar, and think that it excels all of the maples in every one of the above qualifications, except the hard maple, and that in its rapid growth.

I have found from experiments that from sixteen to twenty quarts of sap will make a pound of nice white sugar, depending on whether the tree grew on dry or wet ground. The sap at first has a peculiar taste, disliked by most persons; but at the second or third trial can not be distinguished from the sap of the hard maple. With the same amount of boiling, the sugar is far whiter and of larger grain than any of the maples; the syrup, just before graining, can not be distinguished from strained honey, it is so clear and transparent.

The tree has no insect enemies that I am aware of, having never found the well-known maple borer on it. It is perfectly hardy, will grow in swamps, on the banks of streams, or on the highest hills, and thrive. But especially in the rapidity of its growth it excels all of the fast-growing trees, ripening from four to six feet of wood in a single season.

As to the durability of its timber, I would state that I have vine stakes two inches in diameter that have been in use four years and are still sound, while oak stakes set at the same time have rotted away. I use it quite extensively for posts, and think well of it. Another qualification that should not be overlooked is, that if the tree is cut down it immediately sends up shoots that are again ready for vine stakes in two years, and posts in five.

The seeds ripen in autumn and should be saved before the ground freezes, or mixed with damp sand in a box and exposed to frost; but planting in the fall is best, as the seeds start very early in the spring. The tree bears transplanting well, and will make a large growth the same year. The foliage is very dense, and resembles the ash; hence its name. It is the first to put forth in the spring and the last to drop in the fall. No one will be disappointed in planting the ash-leaved maple.—*G. W. Mackenzie, in Prairie Farmer.*

### *Effects of Charcoal on Flowers.*

CHARCOAL, already well known to be of inestimable value as an absorbent or disinfectant, and likewise containing abundance of nutritious food for growing plants, has also a remarkable influence on the color of flowers. This fact is too well known to gardeners to require much repetition.

A few years since, a New-Haven gardener tried the experiment of the use of charcoal on the health of plants in pots in his greenhouse, and said that he could not possibly see the advantage of continuing under the old system without it.

"The result of my experience is, that, when *not* using charcoal in growing roses, they have been more or less subject to mildew, and the roots of the plants more apt to be injured by fungus, whereas with the free use of that material they are not liable at all to be attacked.

"And besides, when treated in this way the plants are remarkable for their freshness and beauty; the flowers are so much improved that they seem as though they had been

'Dipped in Color's native well.'"

We observe that the subject is again being discussed with practical interest in France, and we quote a paragraph from the *Revue Horticole*, of appropriate effect.

"A correspondent of that journal says that not long ago he made a bargain for a rose-bush of magnificent growth and full of buds. He waited for them to blow, and expected roses worthy of such a noble plant and of the praises bestowed on it by the vender; but when it bloomed, all his hopes were blasted. The flowers were of a faded hue, and he discovered that he had only a middling *multiflora*, stale colored enough. He therefore resolved to sacrifice it to some experiments which he had in view. His attention had been directed to the effects of charcoal, as stated in some English publications. He then covered the earth in the pot in which it was, about half an inch deep, with pulverized charcoal. Some days after, he was astonished to see those which bloomed of as fine a lively rose-color as he could wish. He determined to repeat the experiment, and therefore, when the rose-bush had done flowering, he took off the charcoal and put fresh earth about the roots, and waited for the next spring impatiently, to see the result of this experiment. When it bloomed, the roses were at first pale and discolored, but, by applying the charcoal as before, they soon assumed their rosy-red color. He then tried the powdered charcoal in large quantities upon petunias, and found that both the white and violet-colored flowers were equally sensitive to its action. It always gave great vigor to the red or violet colors of the flowers, and the white petunias become veined with red or violet tints; the violets became covered with irregular spots of a bluish or almost black tint. Many persons who admired them thought they were choice new varieties. Charcoal has no effect on yellow flowers."

It is not stated whether the effects are permanent, or whether they fail after a single season.

### *Bulb Catalogues.*

IT is not strange that the Bulb and Flower Catalogues of our florists and seedsmen are so attractive to the eyes of rural readers. Containing the "*concentrated essence*," in a few words,

of all that is practical and useful of floricultural knowledge, they form the very best guides and hand-books for the ladies and children in the preparation and care of the flower-garden.

Upon our table there are two—James Vick, Rochester, N. Y., and B. K. Bliss & Son, New-York City. Neatly printed, as usual, and freely illustrated, we have every reason to believe that their enterprise, taste, and liberality will warrant our readers the pleasure of an early acquaintance with them.

### *New Bedding Tropæolum.*

"I HAVE just seen a grand new bedding tropæolum; it is a seedling from that most useful variety, Carter's Crystal Palace Perfection, a sort that rarely seeds; but the raiser of the new kind managed to save enough seeds to give him three seedling plants; of these, two were altogether unlike the parent, and quite worthless; but the other is identical in every respect with the parent variety, excepting that the flowers are of a brilliant dark crimson. It is a true trailer, creeps close to the ground, wants no pegging down, and is wonderfully floriferous."—*R. D., in The Florist.*

### *Plan for a Flower-Bed.*

SELECT canna of sorts, ricinus of sorts, humea elegans, arundo donax variegata, tritoma uvaria, lilium auratum, and varieties of gladiolus. Choose any shaped bed, and arrange the above in any order desired, putting the canna or the ricinus in the centre, and the arundo donax in clumps scattered here and there; but trim the bed with centaurea ragurina and pine-apple beet planted alternately, and the effect will be unusually fine.—*The Florist.*

### *Abies Morinda.*

A CORRESPONDENT of the *Gardener's Chronicle* records a description of a very fine abies morinda on the grounds of Joseph Smith, Shelsley Walsh, Worcestershire, near to the river Teme:

"It is a graceful and magnificent specimen, developed in all its beauty, and sparkling in the sunshine with hundreds of its vivid green cones from six to eight inches long. It measures nine feet in circumference at four feet from the ground, fifty-one feet in diameter in its branches, on the ground line; height, one hundred and ten feet; the bole rises twenty-eight feet without a bough; then branches out with great strength and vigor, giving to the trunk the appearance of a greater girth than above quoted. The branches bend gracefully down and kiss the ground, and on one side dip into the waters of a rill which is constantly running, and flows from the wooded heights behind. The side branchlets hang down to the length of fifteen to twenty feet, which gives a very elegant effect.

"The soil is clay, and of great depth. The situation is sheltered from the north and west, but perfectly exposed to the south-east."

## Hints for the Month.

### *Orchard and Nursery.*

IN our northern climate, the harvesting of fruit is done with for this season, unless it be in exceptional cases, where no time should be lost in securing it. In more southern and warmer localities, the case may not be as urgent; yet after fruit has matured, there is nothing gained by leaving it out, as it will not keep any better; for it is considered, by the experienced, not as well as if picked and perfected in the house.

Late summer growth of fruit-trees is undesirable; and for this reason they should not be stimulated by late summer culture, manuring, etc.; but late fall and early spring culture is the better mode; then, usually, the wood ripens early and fruit-buds form, and are so advanced as to withstand severe winters. In all those sections where late summer and fall doughts have prevailed this season, if fruit-trees are examined, it will be noticed that the wood is well matured to the extreme end of new growth, and fruit-buds give promise of an abundance of fruit the coming season; so any thing that checks late growth conduces to early maturity and fruitfulness.

Now, before the ground freezes up for winter, is the time to dig over the orchard, especially around and under the trees, as far as the roots extend, with a long-tined digging-fork, working in manure of some kind; lime, slacked with water in which salt is dissolved to saturation, makes an excellent application; barely raked into the surface, it operates as a stimulant, while at the same time it is an insect-destroyer. In digging and working around the trees, be careful not to leave any hollows around the trunks for the water to settle into, as injury to the trees may result in its freezing. Always give a true descent away from the trunk, and no such accident can occur.

The pear-tree will be as grateful for manure as any kind of tree; indeed, no kind of fruit is more grateful for manure than is the pear-tree, increasing the productiveness in both size and numbers. Plenty of manure and moisture, together with judicious thinning of the fruit, is the great secret in successful pear culture.

Pruning may now be attended to, if hitherto neglected; our best cultivators, where fruit is an object in pruning, prune during summer while the tree is growing, and do much less than is otherwise often found necessary. In pruning a tree, a distinct idea of the form desired should be had, and the tree cut to conform therewith. Different species and varieties have some characteristic form, to which each individual conforms with greater or less exactness; in pruning, these characteristics should be well understood, and should have reference to preserving, or so varying them as to improve thereon to our advantage, although this is often a delicate task and may not be indiscriminately acted upon. In pruning, the difficulty is not so much what to cut, as what not to cut away, as we are more prone to overdo than not to do enough.

The pear-tree presents to us a different habit and form of growth from the apple generally, and demands a somewhat different principle in pruning. The standard pear usually grows tall, of fastigiate shape, or the branches seem inclined to grow in toward the centre; in pruning, we should seek to remedy this, measurably, by cutting so as to induce the growth more horizontally, although, as the pear wood is inclined to be brittle, this should not be carried too far, or the weight of the fruit will operate unfavorably in cracking or otherwise injuring the limbs.

If any large branches or limbs are to be cut off from any tree, the cut should be made neatly, and be smoothly pared, and then covered with some impervious preparation, as shellac dissolved in alcohol, or rosin and shellac mixed and dissolved in alcohol and applied with a brush; the books will give recipes for other approved applications, etc.

When apples are plenty, there will be many that it will pay better to make into cider for vinegar than to make any other disposition of, and late made, from late fruit, makes the best for this or other purposes; it is best to make it before very cold, freezing weather, and store in a dry, warm cellar.

Seedling trees in the nursery, of ornamental varieties, especially evergreens, will be greatly benefited and protected through the winter by having an inch or two of sand or sandy soil spread over the bed.

A kindly shelter of evergreen boughs thrown over all kinds that are not perfectly hardy will be found beneficial, and will pay.

All out-of-door work should be finished up preparatory for the setting in of winter, such as under-draining, fall plowing, heeling in of trees and shrubs which can not be well disposed of or planted this season.

### *Fruit Garden.*

The fall is the time to buy your trees and small fruits, as then the nurseryman's stock is full, and a better selection can usually be made. To this there may be exceptions, as to all general rules; but generally you will be better able to obtain the kinds you desire, and you can better see what to select. It is always better to go to the nursery, when convenient, and make your own selection, as such matters are less satisfactorily performed when deputized; understand just what you want, and accept of no substitution.

Grape-vines are best pruned soon after the fall of the leaves; the cutting away is governed by the age, variety, and growth of the vine, and the object to be attained. In strong, rank-growing varieties, like the Concord, more and earlier ripening fruit is made from vines not very closely pruned, that is, cut back to one or two eyes; reasons are obvious, the vine expends its energies in recovering by new growth of wood, instead of fruiting; other less free growing kinds will bear closer pruning and give better quality of fruit.

All varieties do better if given some winter protection; not that the *cold* of the season injures them so much, but it is more from sudden changes and the direct rays of the sun. It is well, just before the ground freezes, to lay down all vines that are not perfectly hardy and give them a covering of an inch or two of sand or light soil; and others, have a few evergreen boughs thrown over them, first pruning according as you find the most profitable for your culture.

New borders may be prepared for vines this month, but our own preference would be to defer planting till spring rather than so late, in a northern climate; yet the borders may well be prepared by draining, deep working, and enriching with oyster-shells, old lime mortar, bones, etc. This for the amateur culturist. Vineyard culture is somewhat different, and it is generally thought not necessary to have the ground worked deeper than can be well and freely done with the turning and subsoil plow, and better fruit is generally conceded where the soil is generously but not over rich.

Strawberries, no matter how hardy, are much better if some protection is given through the winter, and coarse strawy manure, free of seeds, is perhaps the best, as then the rains, etc., wash out the fertilizing matter, the soil receiving it, and in the spring the straw can be raked off. All that is needed is to keep the rays of the sun off while the plants are frozen; any other covering which will serve the same end will answer.

Fruit-trees, as apples, pears, and quinces, should be examined before frosts set in to freeze up the ground, to see that borers have not effected a lodgment; if so, they should be dislodged with a sharp-pointed knife, or be followed in their mining and boring operations with a strong piece of wire. A little time spent in searching out and destroying them will well repay the trouble and expense; a man will go over a considerable sized orchard in a day.

Cuttings of currants and gooseberries made and set now, and covered with leaves, or like litter, for the winter, will form callouses at the ends of the cuttings, and be prepared to grow right away when growing weather sets in next spring. Cuttings of other hard wooded shrubs, as spireas, prairie roses, etc., may be made and treated the same. A rather light sandy loam, well drained so that no water will lie on it any time during winter, is the preferable soil.

### *Lawn and Flower Garden.*

Why is it that so many associate the fall of the leaf and year with the dreary in nature, as though there were not beauty and cheerfulness to be drawn therefrom? With many writers we perceive this tendency to gloom and less cheerfulness than of the earlier seasons. All seasons have their appropriate characteristics, and it should be our study to draw and inculcate lessons of wisdom and cheerfulness therefrom. The fall brings us the maturing and ripening fruit, together with the falling and rustling of the leaves, the whistling of the wind through the leafless branches of the trees, its plaintive voice as it breathes gently or more violently through the trembling pine, and also the departure of our gay summer feathered visitors to a more southern and genial clime; from all these we may draw many a charm which would compare favorably with our most cozy and enjoyable comforts of other seasons. As the leaves mature, they take on many a hue which exceeds any of the arts in imitation, set off against an Indian summer sky, and forming one of the most striking and agreeable landscape scenes to be imagined; and to watch the leaves as they fall and go twirling through the air, no pleasanter sight can be imagined.

To the neat and critic eye the scattered leaves have an unsightly appearance, when scattered and blown about the lawn; not reflecting that this is nature's mode of protection and restoring the fertility of the soil, or repaying the draughts that are made therefrom in their growth. They must be cleared up, notwithstanding, so that the grounds may have a more neat and trim appearance. The leaves are useful for other purposes; and if gathered and stored, can be applied without the fear of being blown away and lost to the soil that produced them. To mix with manure for hot-beds, or covering and protecting plants, cold beds, etc., they are excellent, and well repay the gathering and storing; and after becoming decayed, they make excellent material for mixing with soil for potting window and parlor plants.

The repeated mowing of the lawn grass may have weakened the roots, and removed fertility which should be restored in some way. A good compensation would be to give the whole ground an even dressing of the finest and best-rotted compost, *free of all seeds;* it may give an unsightly appearance at first, but in a short time it would be washed down so as not to attract attention, and by its protection and added fertilizing matter to the soil, compensate for any unattractiveness of present appearance in spring. Sometimes the lawn grass will be so far exhausted that this is insufficient to restore it; in such case the lawn will have to be broken up and re-seeded in the spring; but breaking up a lawn should be the last resort, when all others have failed.

Trim and tie up all ornamental shrubs and plants in the lawn that require attention; tender plants will need to be surrounded with straw made fast to them, laid down and covered with soil, or be encircled with pine boughs.

If any bulbs remain unplanted that are wanted for spring blooming, no time should be lost in planting, and doing it thoroughly well, giving a good covering of some kind of littery manure. Some kinds will need more protection than others, as the more choice; tulips, crocuses, hyacinths, and narcissuses will need less, an inch or two of old litter being sufficient.

Tender rhododendrons, half-hardy roses, mahonias, and all tender evergreen or deciduous shrubs should be protected with mats, straw, etc.; some kinds it will be sufficient to stand pine branches closely around; the protection mostly needed being from the sun's rays. Some roses and climbers will need be laid down on the ground, and be held in place with forked pegs, and be covered with an inch or two of soil or other lighter covering.

The borders and beds should receive their final clearing up for the season, and be dug over, spading in a dressing of manure—the turning up the soil serving to dislodge and destroy insects, and also of the frost's ameliorating the soil.

All wood and other light trellises, stakes, baskets, etc., should be removed within doors and stored, ready for any needed repairs, repainting, etc., at leisure times during winter, as well as for their preservation.